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DREAMING AND DEFINITION.

THROUGHOUT life and in the arts we are constantly reminded of two distinct and opposed currents of thought, the one leading us to reflect and dream, the other to define and act, and the success of a work of art and its character largely depends on the proper use of the two methods, both of which are essential to success, though in differing proportions according to the specific object to be obtained in any instance. In theology the two currents are always apparent, and we have the contrast between the clear-cut and angular dogmatism of the Puritan who found analogies to Dunbar and Worcester in the Old Testament, Mahommed who defined the delights of a very concrete paradise, and the mysticism of Swedenborg or the Buddhist ascetic. In painting we note the great gulf which separates the early Italian schools from the definition of a Dutch portrait or painting of still life; and in architecture, at one end of the scale we have Indian art, the great monuments of which frequently suggest a modelling out of some plastic material, with little thought of practical requirements and none of the economy of labour or materials, and are a veritable "dream in stone"; and, at the other, the great buildings of the Middle Ages, clear cut, angular, and practical, showing the way in which material might be most scientifically used according to the standards of a rude age; and somewhere between these two opposite ends of the scale we have Classic art, with its derivative, the European Renaissance.

We do not suggest that in mediæval times the architect did not dream dreams and see visions, but we consider that, while his work shows imagination and fancy, it is pre-eminently not the work of a dreamer. An age in which theologians gravely disputed as to the number of angels who could dance on the point of a needle was not the age of the dreamer. The tendency was to put down all that could not be completely understood to some direct, if imaginary, cause—religious beliefs, magic, both white and black, and a thousand quaint superstitions satisfactorily eliminating all doubt and vagueness. The mediæval cathedral as we know it owes much to time and the romance with which we invest the past. Set out to scale and considered critically what is most remarkable about it is the direct and simple manner in which the problem of covering a large space is solved, and the skilful use of simple geometrical forms. The "man in the street" condemned Old Newgate Prison as a hideous mass of uninteresting and repellent masonry, and he might have applied a similar criticism to many mediæval castles and fortress walls if he were not accustomed to see them in more fortunate surroundings, and to associate them with the romance of the past instead of the crime of the present. They, too, frequently gave evidence of imagination, but of a practical and definite order.

We do not believe it likely that we shall in our recoil from ideals created by the dicta of the Romantic School of Literature swing back to the standard of two centuries ago, when our mediæval buildings excited contempt, but it seems to us that they are still taken above their current worth as architecture, and that we are likely to consider their value as being more based on historical association and less on architectural excellence than is at present the case, because a close analysis will convince us that their merits are too much those of definition rather than the realisation of magnificent conception.

Greek architecture, on the other hand, shows to perfection the combined process of dreaming in mass and exquisitely carrying out the results imagined in defined detail. A conception as simple as that of the Parthenon would have lost its nobility in the hands of a Gothic designer. Its perfection, like that of the human figure, would render any change in its proportions unthinkable, whereas there is hardly a mediæval building which could not be improved by some simple change in the relation of the three dimensions as exemplified in it.

And with the Renaissance, which shows the adaptation of Classical standards to the modern world, the same considerations apply, for its best monuments show that an idea has been first adopted, and then defined in detail, so that it has been blocked out in mass first, and then the thought conceived has been clearly outlined. The one is the process of the artist, who spends most of his time in resolving the main harmonies of grouping and mass, the other the attitude of one who paints from still life and wishes to render almost photographically what he has immediately in front of him.

We see these two processes at work in the minds of students, in some of whom interest in detail and desire to design it entirely obliterates due conception of mass, while with another type interest in mass leads to the neglect of detail, so that they pass from one unfinished conception to another, losing their chance of expressing conception by ignorance, or want of aptitude in the use of the language of style.

The tendency of some years back was in the direction of over-absorption in detail, the result of which we see in buildings in our midst; that of the present lies, perhaps, in the other direction. Both are required for the production of architecture; neither can be relied on alone. The one produced the typical work of the Gothic revival, the other Piranesi; neither by itself can produce the greatest architectural achievement.

We believe that architects as a whole are wanting in knowledge of the trend of life, and that they could bring themselves into much closer touch with the general public, its needs and wants, if they spent more time in consideration of the probable tendency of that life as shown by modern legislation and custom. Too often the architect meets his clients' wants somewhat unwillingly and without showing appreciation of the reasons which underlie such requirements, and this is much to be regretted. If he, when brought into touch with either a public body or a private client, is able to show that, like the architect in "The Rise and Fall of Silas Lapham," he knows more about what a woman needs in a scullery than she does herself, he will establish a sympathetic rapport at once which will make his task easier. This may at first sight seem to have little connection with "dreaming," but in reality requires what is essential to the process—the qualities of sympathy and imagination, which are what we feel many architects are deficient in.

The best results will be those of the man who dreams practically, and who considers the results of definition by stepping back, like a painter from his canvas. The most practical of results are possible to the dreamer, for he who is obsessed by the consideration of detail overlooks the simplest solutions. Detail, especially in that most important branch of design planning, should be the servant, never the master, a fact made from time to time very evident to us when an architect, tackling a problem for the first time in a competition, succeeds where others familiar with similar problems fail. But both dreaming and definition should be orderly mental processes if they are to produce real results of value; in dreaming we should select and eliminate from broad alternatives, untroubled by considerations of detail, while when we come to definition the whole effect that we are trying to obtain should be in our minds in order that we may reject what is not in harmony with our conception, however perfect it may be considered by itself. Our thoughts should be fluid that we can run them into moulds, not stiff and formed so that it is necessary to break them up and readjust them to secure what we need. Otherwise we may be good copyists, but shall fail in original thought.

NOTES.

Elections in War-Time.

THE publication of the house list of the Royal Institute reminds one of the approach of the annual election of the Council and the Standing Committees. If we remember rightly, the last election, at which the present Council was returned, was unusually controversial, owing to acute differences of opinion as to the wisdom of recent political action. It has generally been understood that the changes made by this election in the personnel of the Council were to some extent the result of the disapproval of its action felt by a considerable number of the general body of members. Any hope, however, which such members may naturally have entertained that the present Council would be able to direct the general policy of the Institute in the direction they desired has, fortunately or unfortunately, been frustrated by the outbreak of war. As all controversial matters were immediately deferred to a more convenient season by general consent, we imagine that, beyond the consideration of ordinary routine work, the Council has had little opportunity for exercising its initiative in domestic affairs, and that the energies of its members have largely been devoted to dealing with the unprecedented situations caused by the war. It would seem that the next election of the Council will take place on non-controversial lines, since it is useless to elect men to represent views they can do nothing to carry into effect. While such tremendous events are happening elsewhere, they may find it difficult to take much interest in the matter. But, for all that, they have a duty to perform, and this is not the time to shirk it, however relatively unimportant it may seem. It does not seem to be competent for the Institute to follow the precedent set by mutual arrangement between both parties in the State and postpone the election till the close of war, but it appears to be within the discretion of the members to preserve the *status quo* to some extent, should they so desire. But whatever the views of the members may be on this point, we can confidently rely on the absence of acute controversy or of any action not consistent with the gravity of the general situation.

Temporary Buildings.

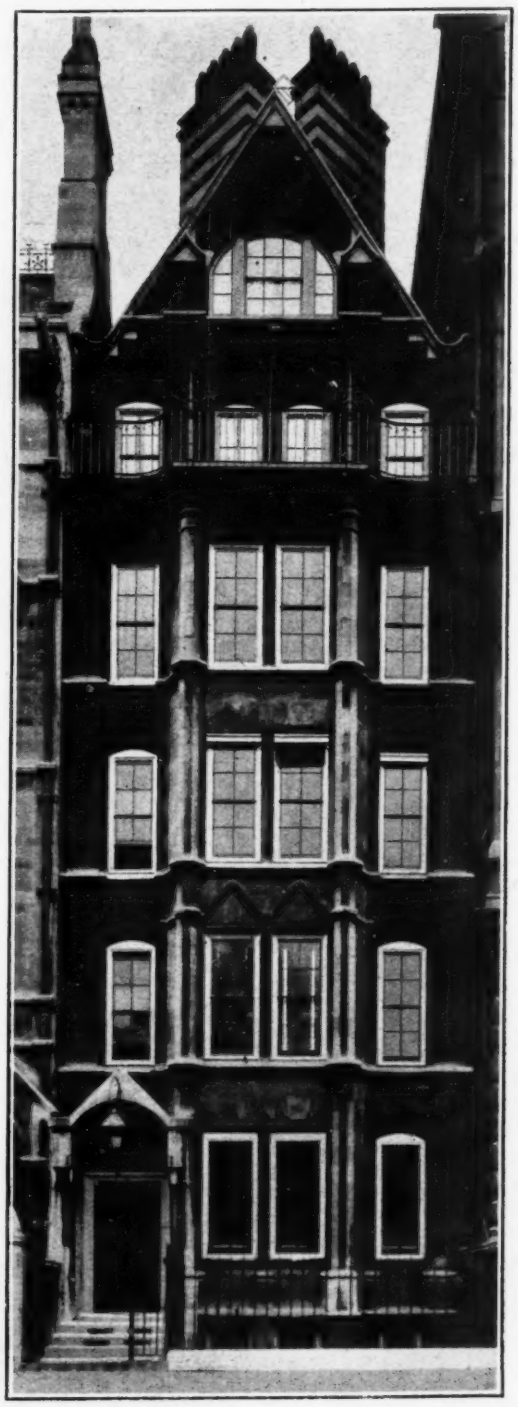
MR. HOWARD CHATFEILD CLARKE in his Presidential address at the Surveyors' Institution stated that he was inclined to think "that in the less closely populated districts at any rate, as long as habitations are warm, dry, well ventilated, and sanitary, the requirements of the local authority should be looked on as being fulfilled; and that too great weight should not be attached to durability of structure. Houses, particularly those occupied by the working classes, quickly become out of date, and, subject to the above essentials, it is desirable that it should be possible to 'scrap' them when the time arrives without too great a loss of capital." We entirely agree with Mr. Clarke's views, and advocated a similar policy ourselves with regard to many classes of buildings. Although architects naturally like to build for futurity, they are first and foremost servants of the public, and the reasons we advanced in favour of building for a term of years only will be found on reflection to be founded on reason. There were, in the past, fewer changes in hundreds of years than there are often now in ten, and this must have some effect on what we may call the policy of building. We can neither keep population nor industries in certain districts by the most perfect and permanent of buildings, but we may make the average man more unwilling to build if we advise him that a larger expenditure is necessary than that which would suffice. Good might be done if architects frankly accepted temporary buildings for many purposes, and showed how effectively they might be used instead of leaving them out of consideration like unwelcome guests.

The War and America.

THE world has changed since the days of the Franco-Prussian War, during which time this country enjoyed a period of unprecedented good trade. Our cousins in America seem, if we may believe newspapers, to be most anxious for peace to come to Europe in order that trade and commerce may follow the normal lines. At least, that is the general impression produced on us, for it may be doubted whether America's warm commendation of the Papal efforts to induce Europe to allow His Holiness to mediate between the opposing parties is altogether inspired by altruistic motives. We are glad to note that Mr. Roosevelt, whose views and methods of electioneering we sometimes disagree with, has spoken with no uncertain voice as to the issues at stake and what should be the American attitude regarding them. We do not need the active participation of America, but it is well to have, and be ter to retain, her sympathies. The fact is that in the last fifty years finance and commerce have become more internationalised than they ever have been before, and to quote an American writer: "Everything that's done unequal injures all of them the same," and not even the possibility of the exploitation of South America consoles America for the shutting down of European markets. We hope our American cousins will produce great works in the only great country unaffected by the war, and that when we can turn once more with undivided attention to the prosecution of the Arts of Peace, we may find ourselves a "long lap behind," for in these matters we are glad if any country leads, since it is to the benefit of all.

Death of a Noted Architect.

ONE of the pioneers of architectural progress has, we regret to say, passed away, though he will be long remembered with affection and reverence by those now living. Philip Webb and Shaw showed by their work what domestic architecture might be, and without their efforts our best houses might never have attained a note of distinction which differentiates them from continental work of the same description. Webb, like Bentley, worked for work's sake, and gave to it a loving care and close attention to every detail which give it a distinction which all must feel. Like Inigo Jones, he carried out less work than is usually given to a man of great capacity, but, like Inigo Jones, his influence on his contemporaries and their successors has been very great. He was a close friend of William Morris, with whom he was much associated in



House, Lincoln's Inn Fields.

Philip Webb, Architect.

work, and was chief assistant to Street for some years. He carried out some fifty or sixty houses and a church at Brampton, in Cumberland, and among his other work is a delightful little brick-fronted house in Lincoln's Inn Fields, which we illustrate. He was a close student of decoration, and made designs for wallpapers, tapestry, and tiles, and he was, with Morris, one of the founders of the Society for the Preservation of Ancient Buildings. He was born in 1831, and retired from active practice in 1900, and, as he was articled at the early age of fifteen, his connection with the profession for which he did so much was an unusually honourable one. Like Morris, he had Socialist leanings, ending his life in a cottage; like Morris, he might have done more for art had he not been preoccupied by political matters; but in common with Morris, architects and artists owe him a debt for the great services he rendered to a calling he loved and did honour to.

THE usual meeting of the Royal Institute of British Architects was held at No. 9, Conduit-street, on Monday, Mr. Ernest Newton (President) in the chair.

Deceased Members.

Mr. Guy Dawber (Hon. Secretary) announced the decease of Mr. Samuel Flint Clarkson, elected Associate in 1869, Fellow in 1885, who was placed on the retired list of Fellows in 1910. Until a few years ago Mr. Clarkson took a prominent part in the activities of the Institute, serving for several years on the Board of Examiners and also on the Practice Standing Committee. He also filled the office of Hon. Secretary and President of the Architectural Association. He was District Surveyor of North Chelsea for over seventeen years, and afterwards held the same position for the Royal Borough of Kensington. He (the speaker) had also to announce the death, from pneumonia, of one of the Associate members of the Council, Mr. S. Douglas Topley. There was something inexpressibly sad in the death of a young man starting on the threshold of an honourable career. To most of them in that room Mr. Topley was well known for the remarkable activity he always showed in debate. He took a very keen interest in all the affairs of the Institute, and especially in regard to registration. He was an admirable debater, but always most punctilious and courteous; he always had the courage of his opinions and never hesitated to express what he thought. He had further to announce the decease of Mr. William Henry Duffield, elected Associate in 1882 and Fellow in 1898; Mr. Ernest Day, of Worcester, Fellow, elected 1889; and Mr. William Basil Stefanoni, Licentiate.

"THE DESIGN AND CONSTRUCTION OF BUILDINGS FOR INDUSTRIAL PURPOSES."

Mr. Segar Owen, in a paper on this subject, said: "The subject-matter of my paper to-night might readily be divided under many heads, any one of which might be treated so as to occupy the whole time at my disposal, and again each of these heads might be subdivided and enlarged upon. I mention this because I can only travel from point to point, hoping that I shall single out the main details of interest that arise in each, and thus review my whole subject in such a way as to be fairly comprehensive and complete.

To the factory architect are offered many great and absorbing problems, and only in the case of prohibition through cost are we ever supposed to be confronted with the impossible. Somehow or other we are called upon to meet various conditions and develop them upon the lines required for the undertakings we are engaged upon, and if we accomplish this, as a rule the ultimate forms are left to us to deal with without restraint.

The middle of the nineteenth century probably saw the greatest activity in factory undertakings. These buildings throughout the United Kingdom are familiar to us all. All much of the same type of design, somewhat dull and uninteresting, but always of a solid, heavy type, as reflecting the character and solidity of the businesses carried on therein, they stand to this day, still performing useful work. As a rule they are constructed of local material, but in none of them did it appear as though any very great thought had been expended upon the convenience of the employees.

The most marked change between the early factories of the nineteenth century and the present time is not only due to the better housing of the employees, but to an entirely different mode of construction and material employed in the buildings themselves. The older factories were of small spans as regards covered area, with wooden roof principals and floor beams, and with more or less adequate fire-escape arrangements. Timber was the usual and practically the only material to bridge large spans; bricks and mortar the usual wall construction; slung floors were usually of timber; special beams cast-iron, columns of the same metal.

I hardly think my subject entitles me to consider the works site, but I should like to say a word on the question of the widths of roadways dividing the factory buildings. In so many factories these are to be found of varying widths from 26 ft. to 40 ft. Such spaces seem to me totally inadequate for present-day requirements, especially where sidings run through these roadways. There are undoubtedly occasions when as much as 200 ft. between factories is not too much. The average works cannot face the loss in acreage that would be the result from a width of 200 ft., but I would like to fix a minimum of 100 ft.; and should this space at first not be wholly occupied by sidings, power mains, etc., the space between the paved roads can be sown with grass until the time arrives that this space is demanded for traffic or other works equipment; and we cannot overestimate the value of these wide roads as fire screens.

The various buildings comprising the usual factory undertakings may be roughly stated as follows:—Office and administrative department; raw goods stores; general factory buildings; warehouses for finished goods; power plant buildings, including boiler house, etc.; attendant and by-product buildings.

Our aim in the planning of such a factory must be the arrangement of these various buildings, and the departments comprised in each, in such order as to ensure the passage of the raw materials, entering from one, two, or more sources of supply, through the successive shops until the goods reach their final state, and are stored in the warehouse for distribution to the customer. This passage of the articles under manufacture must, if possible, be arranged without re-entering or recrossing departments through which in course of manufacture they have previously passed. Such a process in many cases means a simple arrangement for passing the goods from one side of the building to another or from the top of a many-storied building to the bottom; but in factories where the goods are partly manufactured or handled in the various shops and completed or assembled in others, the scheming to bring each department successively within touch of the other requires care and thought in planning, and for this purpose it is essential for the architect to make himself generally acquainted with the process of manufacture in each case.

The administrative department is a departmental office concerned in the management of the factory itself, and generally includes the following:—Time and wage office, cloak-rooms, bathrooms and latrines, clothes drying-room, rest-room, surgery, manager's and clerks' offices. This block must be placed at a point most convenient to the factory building it serves, and in such a situation as to allow of the rapid distribution of the workpeople to the several departments in the building. Such position may be either the corner, the side, or in the centre, and as far as possible arranged so that the workpeople can reach their own particular work by galleries or passages without traversing the floors of a shop in which they are not engaged. The relative position of the administrative block with the works entrance is not of importance, except that where possible sidings should not have to be crossed by the employees.

In factories made up of a large number of large isolated buildings, or in single factories covering a considerable area of ground, it is desirable to divide and duplicate the administrative department. In plan it should include a large assembly vestibule, out of which opens the wage and time-checking room. This vestibule provides proper accommodation for the workpeople to congregate under cover during the few minutes taken in signing on and on leaving the factory, and also during the time when the wages are being paid. Opening from this vestibule are the cloak-rooms, with lockers for each individual employee. In factories where the hands number some hundreds, an attendant's office will be necessary, and this should be placed in full command of the cloak-room and other offices opening from same. The duty of this attendant will be to check the times in and out during the working hours, and be generally responsible for the cleanliness of this department.

The latrine buildings should have the walls of white-glazed bricks, and partitions carried some inches from the ground, and to a height of 6 ft. or 6 ft. 6 in., plain unmoulded doors, tiled floors laid with proper falls to gulleys, so that the buildings can be thoroughly cleansed with a hose pipe. Opening from the cloak-room should be the bathrooms; these formed usually as shower baths, with simple arrangement for hot and cold water supply, the shower enclosed in a small partition, off which is a small dressing space.

The style of manager's office (and, if necessary, the clerks' office) will depend entirely on the system of departmental management of the particular factory. These rooms where possible should be placed in such a position as to overlook the factory.

There are still two departments required to complete this block, namely, the first aid surgery and the rest-room. For the surgery a small room with tiled walls, tiled floor, having small operating table, couch, medicine chest, antiseptic ointments, bandages, plain splints, with small sink, hot and cold water, electric radiator, and electric kettle.

The other so-named luxury is the rest-room. These rooms are required only where girl labour is employed, and should be as unlike any part of the factory building as possible. They are used by the workers in cases of faintness and sickness, the girls being granted permission on application to the forewoman of their department, and here are permitted to spend an hour in comfortable, quiet, and restful surroundings. The room is under the supervision of a matron attendant.

The following are offered to us for choice:—Brick structure wholly, with wood or cement floors, and with wooden or steel roofs; steel and brick composite buildings, with wooden or slung concrete floors, steel or wooden roofs; steel structure; reinforced concrete structure.

Some twenty to thirty years ago the forms of composite buildings varied very considerably, and were designed in both iron and steel in peculiar forms for each undertaking. Gradually out of this somewhat chaotic state the designs became more uniform; joists, girders, and roof principals were catalogued, and almost all forms of major items in the buildings were carried out in a generally recognised design. Girder connections, seatings, and brackets have been further standardised, and perhaps we are now too well supplied by manufacturers and constructional engineers with catalogues of these details, which, whilst forming a constant and convenient reference, are inclined to check research and enterprise in the way of new forms.

There is another and a newer form of construction that is claiming and demanding very serious consideration at our hands, and that is reinforced concrete. The earlier promoters, for reasons best known to themselves, desired to treat the architect as neither knowing nor wishing to know anything of this science of building. That it is a wonderful science is undoubted, and its ready acceptance on the Continent and abroad has enabled many regions of the world to be brought almost into the heart of commercial life. To my mind, bridge construction, riverside piers, jetties, retaining walls, silo buildings, cooling towers, culverts, and the more peculiar forms, are the lines upon which reinforced concrete finds its particular outlet. One hesitates to accept this form of construction for the average factory, on account of the many changes that are constantly being made, especially as regards machinery. These changes invariably lead to the cutting of floors, rearrangement of loads and points of support, and one cannot get away from the feeling that during these changes the cutting of a main member might possibly mean a partial collapse.

The construction and finish of factory floors is a matter requiring care and experience. To-day we have constantly brought to our notice different forms of floor construction—fire-resisting blocks, patent joists, etc.—but I believe most of us prefer to use the ordinary steel joist and concrete filled floor, and, in special cases, girders with concrete filling, boxed out and strengthened with mesh metal. It is unnecessary to state that the weights of the loads to be carried must be most carefully calculated, so that there will be no straining of the structure, and the surfaces of the floors

must be properly prepared to take the finishing necessary for the special class of factory we are dealing with at the moment. These finishings may be roughly taken as follows:—Engine and power stations, hard tile; boiler houses, blue brick; chemical factories, blue acid-proof brick, with acid-proof asphalt; factories, granolithic paving, asphalt and wood blocks.

The roof of a factory is perhaps the most interesting detail we have to consider. I do not propose to discuss the different types of roof principals—these have become practically standardised—but I shall refer to one or two peculiar forms that I have often found it necessary to employ. When called upon to erect a factory in a district with which I am not familiar, I generally apply to the nearest observatory for the records of winds and gales, also for particulars of rainfall. Such information is most readily given, and one has then the satisfaction of calculating all details on a sound local basis. In connection with these observatory details, on two occasions after the factories were completed, the observatories were good enough to write stating that gales had just occurred greatly in excess of any previous record; and therefore, in view of the increased spans asked for, it is desirable that no risk should be run when calculating the strains and stresses for this or any other part of the structure. One must admit that at times roofs and girders give the impression of being extremely weighty, and therefore costly, and perhaps it may be only two or three times in the year that they are strained up to their full load.

The roof of the average two or more storied building is usually a single span of the ordinary type of principal suitable to the width, with probably a certain proportion of skylight area, and in some cases peculiar details as regards louvre ventilation. The lighting of large one-story areas presents more details of interest. The north and east lights are the steadiest for factory buildings, and the usual type of roof is that known as the Weaver roof, in which the northerly side is wholly glazed and the southerly side slated or covered in some other form.

The angle of the north pitch is a matter requiring careful adjustment and is governed by the situation of the works, either at home or abroad. In England and in dull climates, and on the western slope of a valley, the angle with the horizontal must be reduced to about 60 deg. The slated side will be at a pitch of about one-third the span. This angle of 60 deg. may require to be varied in factories where an unusual amount of ventilation is required. As a rule this ventilation is provided in the form of open louvres framed in the ridge of each roof, and running the whole length from parapet to parapet. These louvres project some 2 ft. to 5 ft. above the ridge. If, then, the pitch of the glazed side is too upright, the outlook from the floor or working level in the shop, and furthest from the skylight, is into this line of louvres, with the result that the shop is unnecessarily darkened. In such a case the pitch of the glazed side of the roof should be reduced, and its exact angle fixed by a trial by diagram. If the shop is one requiring not only ventilation but a very considerable amount of light, the slope of the louvre roofs should also be glazed. The span of these Weaver type roofs varies from 25 ft. to 35 ft. It is worth our while for a moment to consider to what maximum limit of span this type of roof may be taken, so as to be economical as regards construction and satisfactory as regards lighting the shop. Personally, I have no hesitation in taking the span up to 33 ft., but I should call this the extreme limit, and the result in both cases will be quite satisfactory.

So far we have dealt with the span only of this type of roof. The craving amongst manufacturers for large floor spaces with as few supports as possible brings us to the problem of what cross spacing can one economically carry these roofs. Again, 30 ft. to 33 ft. seems to me the economical limit; beyond that special and costly girdering is necessary and is usually arranged as follows: Where the larger spacings bring the points of support parallel with the ridge, the girders are carried above the gutter line and the principals of the roof are framed into the lower plates of these girders; but if the points of support are to be across the line of the ridge, then the girders are formed of a Warren type, with the members following the line of the Weaver roof, in which case both the glazed and slated sides of the roof will be carried through the supporting girders continuously from outside to outside of the factory.

All gutters for this class of roof must be adequate, say 18 in. to 24 in. wide, strong cast iron, with rebated joints, and fitted with proper boxed cistern outlets. There is no necessity to have these gutters with tapering cast, as they will clear themselves of water to outlets 50 ft. to 60 ft. apart, and in case of replacement there is then no likelihood of delay and inconvenience due to the necessity of casting a special taper. If the length between outlets is greater than 60 ft. the depth and width of the gutter must necessarily be increased. The gutter outlets are connected to the heads of the columns carrying the roof, which column can be conveniently used as the outlet itself, the column head being arranged so that none of the bolts connecting the roof girders will pass through the head itself, and at the base of the column it will be convenient to cast on side-way outlets, with flanged joints, to connect up to outer bends into the ordinary drain, the core of the column filled in with concrete to the height of this outlet, and benched off to throw the water outwards. If, as is more usual, stanchions are used as the roof support, downspouts will be carried in the hollow of the stanchions.

For factories of 120 ft. to 150 ft. span, and requiring a considerable amount of light, the following form of roof is being largely adopted on the Continent. The principals spanning the full width are formed as light Warren girders, of a depth between 14 ft. to 20 ft. On both wall sides the whole depth of the girder is glazed, and from the head of the glazing, from one side to the other, concrete flats are formed, but not over the centre one-third of the shop. These flats are laid with a slight fall outwards. The space left in the centre of the roof is then framed as an ordinary pitch roof, glazed on both sides. Such a roof gives an enormous amount of light into the area covered, and if it is used in a shop where ventilation is very necessary, the centre portion of the roof is lifted from the level of the flat on to framed louvres.

I have referred frequently to-night to roof glazing, and in all cases I have had in mind the many excellent forms of patent roof glazing which are turned out by English manufacturers. Most of the patentees have carefully considered and can now with equal facility glaze their bars into timber, steel, or concrete connections, and provide an excellent form of weatherproof glazing even with a pitch as low as one in thirty. Rapidity of execution, easy renewals of broken sheets, and renewals of special parts are not the only advantages. By special arrangement of the bars, one can be certain that condensation will not drop from the roof on to the floor beneath; this is a matter of very considerable importance where the manufacture of certain articles is carried on in shops where a certain amount of free live steam or vapour is given off. Where possible the sheets of glass should not be of greater length than 9 ft., though if required they will be provided up to 11 ft. The glazing of a very considerable amount of Continental factory work is carried out with plain T section bars, the glass being puttied into the rebate. Such a system would certainly not be watertight for any length of time with such a climate as we experience in England.

The speaker then dealt with the question of fire protection, after discussing which he went on to say: The principles which govern the factory staircase are those which apply to all public buildings, namely, suitability and directness of access. Their position in the works will be governed by a number of considerations, both as regards traffic and purpose, but no circumstances must be allowed to cramp or confine them into out-of-the-way corners. Of a width convenient for the numbers using them—and if this means a greater width along the step than from 7 ft. to 8 ft. the flight must be divided by suitable plain round hand-rails with strong iron standards, also with plain handrails fixed on the wall side. No flight should be of a greater number than twelve steps, and these not greater than 6 in. rise or less than 11 in. ontread. All landings must be full half, and the outlet or doorways at the top or bottom must open into as large a collecting area as possible. In a word, when deciding the position and size of these staircases, one must always have in mind the use of same in case of fire, when quite possibly a mad rush would be made to leave the building. The doors must open out from the staircase; and the flights should be well lighted and ventilated from the sides away from the factory. The materials used for the steps should be either stone or concrete; in some cases slabs of timber, of not less than 3 in. thick, may be used. Iron fire escape staircases are quite familiar to us all. With these, it is desirable that the risers of each step, so often omitted altogether, should be solid or perforated, to prevent accident to those using the staircases.

Mr. Segar Owen afterwards dealt with the factory "shops," the position and construction of the engine-room and power plant buildings, the thickness of walls, and other details connected with the subject.

Sir W. H. Lever, Bart.,
in proposing a vote of thanks to the author said, in justice to the architect there ought not to be rambling about in connection with factory work, because the architect should study the requirements of a business and apply himself to the problem of meeting them. He would like to see some cheapening of factory buildings. It was a remarkable fact that whilst machines and engines and other productive agencies were enormously cheaper, yet when they came to buildings the price per cubic foot was steadily advancing all the time. Factory buildings were built far more solidly than was required, because it had to be remembered that a mere change in the process of manufacture and change in the type of machinery probably involved the scrapping of a building and the erection of a new factory. Factory buildings wanted renewing almost as often as one renewed one's overcoat, and he felt that some modification in the strength of such buildings should receive attention. With regard to such things as rest rooms and surgeries, and so on, he was certain that the manufacturer who provided these luxuries was repaid in the health and vitality and industry of his employees. The type of factory building which appealed to him was one where the outside walls only were built to be permanent. In his opinion, the whole of the inside divisions might be half a brick thick, so that they could easily be torn down to enable any department to be enlarged. He was continually having to fight his managers on this very point. They thought they knew finality, and built up a separate unit and a more or less rigid section of a factory, but there was nothing so changeable as the various departments of a works. One department shrank and another grew, and if only the outside walls of the factory were permanent all the necessary changes could be made without interruption to the works, and at little expense. The question of the price per cubic foot was one which ought to be reduced to a more scientific level, for he found it varied in different parts of the country under different architects from 3d. to 8d. There was no greater handicap to a business than an expensive factory building, for it had no productive value. Each business required its own type, and if architects could specialise for different industries in the same way as they specialised on various styles of architecture it would be a good thing. It had to be remembered that London was still the greatest manufacturing city of the world. They were apt to think that Lancashire, Yorkshire, and the Midlands were the great manufacturing centres, but, taking the same-sized area, there was no manufacturing centre so great as London, and yet it seemed as if those responsible for the by-laws wanted to make it impossible to carry on manufacturing business in London. He had encountered the difficulties in connection with the building of a warehouse, in regard to which they were crippled by a needless multiplication of interior walls, which made economical control impossible.

Mr. Matt Garbutt,
seconding the motion, said he did not quite agree with Sir W. Lever's idea as to architects specialising, or at all events, not in the opening part of their careers, because a wider outlook was likely to produce better work, and particularly in factory work. He considered much greater use ought to be made of the banks of the canals for factory sites, and possibly now that motor transport was becoming so customary the railways would try and develop the canals to a greater extent. With regard to construction, he did not think it was a question so much of what material was used as to how it was used. They were beginning to get used to the idea of going back to big

balks of timber for fire-resisting purposes in some parts of the Continent, and he would not be surprised if they saw more of it in this country as soon as the by-laws permitted. He believed that in this country the extremely high chimney was getting discredited except for chemical works and works where dangerous fumes were given off.

Mr. Dunn
remarked that, however severe the by-laws might be in London, they had not yet called for rest rooms and surgeries and bathrooms. Those things were left to men like Sir Wm. Lever. He agreed as to the serious danger of the London building laws to London trade, and it was getting worse and worse. The powers that be seemed to set their minds on Teutonic models, and perhaps the war would deliver them from that, and leave them with some of that liberty which he ventured to say had made the country what it was to-day. He was glad to think that architects in connection with factory building had the chance of making the lives of their fellow-creatures a little brighter.

Mr. Max Clarke
asked the author where in factory construction he thought the architect's duties ceased and the engineer's duty commenced. That was a question which was exercising his mind at the present time—the point at which he should call in some additional assistance of a more or less special technical character, and who should pay for such assistance. He had never been permitted by the London County Council to build any such building as Sir Wm. Lever desired. The regulations in the County of London were so severe that the fewer factories built in that area the better for the owners. He agreed that a factory building was one that was subject to alterations practically at any moment, and if the construction was in reinforced concrete they would be laying themselves out for unlimited trouble. He considered that the limiting of each division in a factory to 250,000 cubic ft. was a very arbitrary regulation. With regard to staircases, he thought Mr. Owen was a little too liberal. The London County Council allowed 7½ in. rest and 10 in. tread, and that did not appear to him too steep. He would like to know if Mr. Owen's engine was mounted at the first-floor level, how he counteracted the swing of the bed. He had heard that granolithic pavement, or the pavement used in streets, was better for floors than any material laid *in situ*, and would like to know if the author had found any floor that would resist grease.

The President
said it was a mistake to suppose that a severely practical building designed only for material needs was uninteresting to architects. So long as the problem was tackled in the spirit suggested by Mr. Owen it seemed to him that a nice adjustment of parts and careful consideration and arrangement of the different departments in absolutely the best possible manner demanded great skill and ability, and that if the varied and definite requirements were met, and a building perfect for its purpose was the result, they got good and even impressive architecture.

The motion was heartily agreed to.

Mr. Owen
said that, on the question of calling in experts, he could only say that when he arrived at a point that he felt an expert was necessary, he never had a client who had declined to pay for the expert. The limit of 250,000 cubic ft. in London seemed utterly ridiculous in some buildings, and in the warehouse to which Sir Wm. Lever referred they had one wall within 10 ft. of another. As to engine-bed swing, no one suggested that the engine bed received any support from its floor. It must be solid and take up the shears itself. Granite was perhaps the best form of flooring where grease was used, but if it was a small area very hard vitreous tiles would also resist grease.

The President announced that the next meeting would be the annual general meeting, and would be held on May 3, when the annual report of the Council would be submitted.

THE LATE MR. W. N. DUNN'S ESTATE.

The late William Newton Dunn, of "Glenfeulen," Wray Park, Reigate, senior member of the firm of Messrs. W. N. Dunn & Son, of Bucklersbury, E.C., architects, etc., who died on December 23, aged sixty-six years, has left estate to the gross value of £108,223.

PICTURE AND OTHER EXHIBITIONS.

THE Professional Classes' War Relief Council are holding an exhibition of decorative art at 13, Prince's-gate, W., to which Mr. C. F. A. Voysey, Mr. T. R. Spence, and many other well-known art workers have contributed interesting work. The silver work and jewellery are especially good and the prices very moderate, and we hope the exhibition will meet with the success it deserves.

At the Leicester Galleries an interesting and characteristic collection of drawings and lithographs illustrating "London in War Time," by Mr. Joseph Pennell, is now on view, which, as usual, show the artist's wonderful skill in depicting architectural and atmospheric effects with a few broad touches. Among those which are most noteworthy are No. 16, "Zeppelin Over Leipzig" (lithograph); No. 20, "Zeppelin Coming Out" (lithograph); No. 23, "The Long Lights"; No. 25, "The Birds Coming Home to Their Nests"; No. 31, "The British Ship." The way in which architectural detail is indicated in these drawings affords a useful lesson to architects, as Mr. Pennell's lines are always so truthful that he shows more with less definition than any other draughtsman we know of, while he certainly proves how picturesque our everyday surroundings are.

There is on view at the same galleries a collection of the works of Mr. Oliver Hall, consisting of etchings, water-colour and pencil drawings, which is well worth seeing by lovers of delicate and sure draughtsmanship. Among those we particularly liked are: No. 4, "A Half-Timber House"; No. 8, "Timber Yard, Portsmouth"; No. 26, "A Dutch Village"; No. 27, "Weymouth"; No. 29, "Old Timber Jetty, King's Lynn"; No. 40, "Castle Acre"; No. 42, "Middleham Castle and Village"; No. 45, "Chapel Island"; and No. 54, "Vienne"; while among the few water-colours D. Petworth and M. Bridge, in the "River Lune," are exceptionally perfect, both in subject and rendering.

A third room at the Leicester Galleries is filled with landscapes in oil and pastel by Mr. Tom Roberts, much of whose work is both pleasing in tone and choice of subject. No. 3, "Moonrise in Picardy"; No. 4, "A Wessex Creek"; No. 14, "In the Gleam of the Moon"; No. 17, "The Dreaming Moon"; No. 21, "The Towpath"; No. 23, "Moonrise on the River"; and No. 28, "Dawn and a Quiet Sea," were among those which we think most lovers of art would find pleasure in. We must not forget to add that a small but very clever set of miniature enamels, by Laura Knight, A.R.W.S., is also shown, which illustrate the Russian ballet, and are delightful in colour and composition. Altogether, the Leicester Galleries are especially well worth a visit just now.

THE SOCIETY OF ARCHITECTS:

ARTIFICIAL ILLUMINATION IN RELATION TO ARCHITECTURAL EFFECTS.

ON April 15 Mr. S. D. Chalmers, M.A., Head of the Department of Technical Optics, Northampton Institute, read a paper at the Society of Architects on this subject. He said:—

"The great progress in the theory and practice of artificial illumination has provided architects with new materials and resources for producing architectural effects, particularly in relation to the interiors of buildings and the decoration of halls and smaller rooms. It is true that the illuminating engineer has as yet made little progress in the application of his new methods to these purely architectural problems; it was only natural that he should first turn his attention to the more utilitarian aspects of artificial lighting; his aim has been to produce the illumination requisite for the comfortable use of a room for its ordinary purposes; and economy has been one of his prime considerations. He has, to a very considerable extent, solved the problem of the efficient and economical distribution of the light available. He avoids excessive illumination of any point, and by screening his sources of light reduces the glare, and so is able to obtain the same visual effects with reduced actual illumination. He takes into account the reflection co-efficient of his walls and ceilings, the nature of the objects to be illuminated, and the fineness of detail which must be distinguishable. Incidentally he has made some progress in the illumination of the architectural features and decorations of the rooms. But progress in this latter direction is more dependent on the architect than on the illuminating engineer. It is not always possible to make effective use of artificial light in buildings and rooms which have been designed entirely with a view to their effect in daylight. Just as the architect considers the site and lighting of his building in regard to its outside form and its interior decoration, so he should consider the scheme of interior decorations in relation to the artificial lightings with which it will be used. Some types of decoration are quite unsuitable for artificial illumination and should be avoided in rooms which are intended to be used almost exclusively in artificial light. Other types are suitable for either illuminant. But the differences between the characteristics of daylight and artificial illumination are such that one cannot assume that good results will be obtained by artificial light, even though the results by daylight are most satisfactory.

The Nature of Natural and Artificial Illumination.

But under the term of artificial illumination we include such varieties of actual lighting, that much may be done to improve the effect in any given case.

It is my object to-night to point out the fundamental similarities between natural and artificial lighting, to indicate how variations in natural lighting have led to important architectural developments, and to show how the results achieved with natural lighting may indicate the successful treatment with artificial lighting.

The great contrast between the Classic and Gothic styles is closely associated with the variation of the lighting conditions. In Greece the conditions were simple—a bright source of light almost always available, and a relatively small amount of diffused light. In the sunlight clear-cut shadows were produced, and only shallow mouldings were necessary to secure the necessary contrasts of light and shade. This is well illustrated in the columns of the Parthenon, where the sharply undercut mouldings produce clear sharp bands of shadow. But when buildings in the Classic style are erected in climates like our own the quality of the light is different, and the features must be modified if the same effect is to be produced; and the proportion of diffused light being greater, it is necessary to deepen the flutings to produce sufficient contrast. This same general characteristic is noticeable in artificial illumination when one bright source is replaced by a number of small ones.

It is this same effect of deeper mouldings and flutings that marks the Gothic as contrasted with the Classic architecture, and once more it is the lighting conditions which determine the extent of the change; the more diffused the light, the deeper must be the moulding. Another case of adaptation to the lighting is the pulvinated frieze, in which the surface is lightly curved, so that the upper part intercepts more light than it otherwise would do, and so gives a shading from the bright upper to the dull lower part. This is effective in the case where the light is well diffused, but comes only from a comparatively restricted sky area. This is an intermediate case between the direct sunlight and the wholly diffused light.

These same general principles apply also to interior ornament. The more diffuse and less direct the lighting, the more is it necessary to intensify the mouldings, carvings and other relief. When the lighting comes from above in a comparatively narrow beam, the ornament must be in low relief, while a general diffused lighting from in front is more suitable for cases of deeper relief. An illustration of this principle is furnished by the Miserare seats, with the low relief above and deep relief below. In most cases of artificial lighting, ornaments on the level of the lights may be in deeper relief than those well above or below. In the same way it is unwise to illuminate a ceiling with deep mouldings by lights placed too close to the ceiling, as this results in long and deep shadows. When the lighting is very diffuse, it is sometimes preferable to produce the impression of depth by special devices, such

as the linen-fold panel of the English and Flemish architecture of the fifteenth century. Such devices are usually suitable for artificial as well as natural lighting.

Artificial Lighting of Interiors.

Turning now to the possibilities of the artificial illumination of interiors, we find that the conditions are in some respects less, and in others more, favourable than those of natural lighting. The daylight usually comes as diffused light from a comparatively large window area, producing very variable illumination throughout the room. It is exceedingly difficult to modify its distribution to any appreciable extent, and the amount is very variable throughout the day and year. On the other hand, the eye adapts itself very readily to the variations of daylight, ignoring all excessive contrast and accepting the variations in colour of the light without noticing them. Not the smallest advantage, perhaps, is that the actual source of light does not come into view, and we are not obliged to devise special methods of screening it.

In the case of artificial illumination the original sources are comparatively small bright objects which obtrude themselves most unpleasantly if we omit to screen them from direct view. But because the sources are small we can surround them by diffusing screens or reflectors, and materially modify the distribution of the light coming from each source. With modern, properly designed reflectors it is possible to produce almost any desired distribution of the light, from practical uniformity to concentration in comparatively small angles in any desired direction. By the judicious placing of the sources of light and the proper choice of reflectors we can obtain almost any desired distribution of the light with one limitation, that the light coming from each individual source to any point will be coming in a comparatively small angle. Each source would tend to produce well marked deep shadows, and care must be taken that the effects of the other sources are to reduce the depth and size of these shadows to the desired amount. In this way the shadows may be made architecturally useful rather than the reverse.

It is this possibility of varying the character of the lighting and the change in the distribution almost at will that makes it possible to obtain different architectural effects. The ideal of the illuminating engineer has generally been to produce even and soft illumination throughout the room. But it seems to me that this is not always the most suitable lighting, and that in some cases a more one-sided lighting, with a subsidiary cross or reverse lighting, might be usefully employed. But in using this method one must not attempt to imitate the conditions of daylight too closely. The variations must be considerably less than those of daylight, because the actual illumination will usually be considerably below that which prevails with daylight, and at this lower illumination the variation is much more readily appreciated. This effect is not materially altered by actually increasing the illumination by artificial light, because of the dazzling effect of intense artificial light. Owing to the adaptation of the eye to the conditions prevailing in artificial illumination, comparatively small variations are effective, and it is unwise to produce strong contrasts between the different parts of the room. Most people find it unpleasant to sit in a well-lighted part of a room while the rest is in comparative darkness. It is on account of this adapt condition of the eye that it is so important to screen the modern sources of high intrinsic brilliancy, and the only effective way is to make the light appear to come from an area much larger than that of the source. The smallness of the size of artificial sources is troublesome when reflecting surfaces, such as varnished wood, are present, and in some cases the reflections are objectionable. They may be reduced by increasing the size of the source or altering its position. The same difficulty of reflection occurs in connection with picture lighting, and care should always be taken to place the sources sufficiently above the picture to make the reflection invisible at the ordinary level of the eye. This generally adds to the difficulty of securing even illumination on the picture, but by properly distributing the light from the source almost any required degree of evenness of illumination can be obtained.

Still further difficulties are encountered in regard to coloured ornamentation, and these troubles are accentuated if the illumination on the coloured object is low. The relative brightness of the parts of different colours will change as the illumination is diminished, and it is a wise precaution to secure abundance of light for any coloured ornamentation. Even with this precaution the colour values are unlikely to be exactly the same as with daylight, though the recent attempts to improve the colour rendering by artificial light have met with considerable success. But the rendering of variations of shade in a flat object is almost the same by artificial light as by daylight, and the same may be said of pierced work where the contrast of a carving is enhanced by piercing.

Pierced screens are interesting, as showing one of the earliest methods of combining natural with artificial lighting effects. In daylight the screen is lit from in front, the openings appearing dark to contrast with the screen; when the Altar is lit up the screen is seen in silhouette, and the piercings are light. The same effect of interchange of light and dark in natural and artificial lighting is seen in the windows of churches and other buildings. The walls near the windows, which are of least importance in daylight, are the most prominent features in the artificial light. Their architectural treatment, though making little difference by daylight, may be of the greatest value for artificial lighting.

Diffused Lighting.

But there are other methods of artificial lighting to which I would like to refer. In these methods attempts have been made to imitate the conditions of daylight lighting. An example is the use of a group of lights surrounded by large diffusing screens or reflectors, in imitation of the method of the oculus as used in the lighting of the Pantheon. It is easy in special cases to imitate the effect of this method of daylight lighting, and the method is applicable in large halls or theatres. But the method of indirect lighting approaches most directly to the effects of daylight.

In this method the light from the source is sent on to a white ceiling or screen and is directed downwards to illuminate the room. The absence of marked shadows renders this method useful for certain purposes, as, for example, the lighting of drawing-offices, but unless the illumination is very high the method gives the impression of a poor imitation of daylight, suggesting coldness and wintriness. We interpret this artificial lighting in terms of daylight and the suggestions that this daylight carries with it.

It is probably on this account that many people prefer the semi-indirect system of lighting, in which part of the light from the source is allowed to pass through the shade, while the other part illuminates the ceiling. In this case the impression of artificial lighting is retained and the comparison with daylight does not obtrude itself; at the same time the conditions of shadow are more those of daylight, and the indirect light from the ceiling tends to soften the whole lighting. This method of semi-indirect lighting is specially useful when the ceiling and frieze are worthy of attention in themselves, as, for example, in beautiful moulded ceilings.

In all these cases of indirect lighting it seems preferable to show sources which illuminate the ceiling even if the greater part of the light be really derived from concealed sources. There are, however, a number of cases in London where the ceiling has been lit entirely by means of concealed lights, and the effect has not been happy. These lights produce beautifully even lighting on the ceiling, but one unconsciously asks where does the light come from, and the only explanation is that there must be an opening between the walls and the ceiling, and apparently it must extend all round, there being no distinctive direction in which the light comes, and ceilings which are unsupported are uncanny. In one of these cases the effect was much improved by the use of a number of visible sources which apparently illuminate the ceiling Thus, as regards interior illumination, the conditions are somewhat different for artificial and natural lighting. But each has its advantages, and by judiciously using the resources of artificial lighting it should be possible to obtain quite as good results as with natural lighting, but this is a matter for the architect as well as the illuminating engineer. New methods and arrangements of lighting are required.

In the cases where rooms are to be used only or mainly by artificial light, the architectural features should be designed in relation to the actual method of lighting to be employed. When few but large sources of light are to be used, the conditions approximate to outside natural illumination, and models of ornament and architecture may well be sought in Classical types; but when numerous smaller sources are to be used, the conditions approximate more to the Gothic conditions, and mouldings and ornamentation of this style might well be studied in connection with their value in artificial light.

Exterior Lighting of Buildings.

Another interesting problem which I can only touch on lightly is the illumination of the exterior architectural features of a building. When the aspect is a southern one, the same conditions as in daylight may be approximated to by the use of one large source of light high up in front of the building, and a number of smaller sources placed lower down and distributed along the length of the building. When the aspect is a northerly one, the whole lighting should be by a number of small sources evenly distributed in front of the whole building. Occasionally friezes can be well lit by concealed lights above the frieze, the proper distribution of the light being secured by the use of suitably designed reflectors. In this case, again, the difference between the treatment of high and low relief is important, and the effect of the high relief is even more exaggerated for statues or very deep mouldings, which require front rather than high lighting.

ARCHITECTURAL SOCIETIES.

Sheffield Society ot Architects and Surveyors.

The annual meeting of the Sheffield Society of Architects and Surveyors was held on the 15th inst. at the University, under the chairmanship of Mr. A. F. Watson.

The annual report, submitted by the Secretary (Mr. James R. Wigfull) showed that the total membership of the Society is 109, compared with 114 last year. The war has made a strong appeal to the patriotism of architects and surveyors, and no fewer that forty-one principals or assistants from Sheffield and Rotherham offices are now serving with the colours. Precautions have been taken to deal with any emergencies that may arise out of the war, either in regard to the interests of the profession or of individuals. The building trade generally has been very seriously affected. The shortage of labour, especially that of labourers, which was one of the greatest difficulties during the early days of the war, is not now so apparent. This is due in a large measure to the greatly reduced amount of work in progress.

The accounts showed a balance in hand of over £61.

Officers for the ensuing year were elected as follows:—President, Mr. A. F. Watson; Vice-President, Mr. C. B. Flockton; Treasurer, Mr. R. W. Fowler; Hon. Secretary, Mr. James R. Wigfull; Committee, Messrs. W. G. Buck, F. E. P. Edwards, J. R. Hall, H. I. Potter, H. L. Paterson, C. S. Sandford, C. F. Innocent, J. Lancashire, and F. H. Wrench.

Appreciation was expressed of the manner in which Councillor Arthur Neal had conducted the negotiations with the profession in respect of troubles arising out of the recent revision of by-laws.

Bristol Society of Architects.

The annual general meeting of the Bristol Society of Architects was held on the 12th inst. at Messrs. Fortt's, Royal Promenade, Clifton. The election of Council and officers for the session 1915–16 resulted in the following members being elected:—President, Mr. Graham C. Awdry; Vice-Presidents, Messrs. G H. Oatley and W. S. Skinner; Council,

Messrs. C. F. W. Dening, Mowbray A. Green, G. C. Lawrence, J. Foster Wood, B. Wakefield, and R. C. James; Associate Members of Council, Messrs. E. G. Rodway and H. W. S. Wills; Hon. Secretary, Mr. A. B. Botterill.

The annual report stated that in spite of the European crisis an excellent attendance at the meetings and a continued interest on the part of members in the proceedings of the Society had been maintained. The Council also noted with great gratification that at least thirty-four architects, formerly residing within the province of the Bristol Society of Architects, nine of whom are members of the Society, are serving with H.M. Forces, and in addition many members, including the President, were devoting a great deal of time in various ways to the interest of the country. The Society now numbered thirty-five Fellows, twenty-three Associates, and thirteen students, a total of seventy-one. At the request of the Sub-Committee of the Architects' War Committee the Council compiled a list of architects who are willing to undertake Government work in the planning and supervision of buildings and temporary erections and in other kinds of professional service during the war, and also those willing to take over and temporarily carry on the professional work of architects who have enlisted for service with the troops.

During the evening a discussion took place upon various subjects, and Mr. Wilfred L. Haile, the winner of the first prize in the recent students' measured drawings competition, was presented with a book prize to the value of £3 3s., and his drawings, which consisted of a Reconstruction of the Eighteenth-century Reredos at Christ Church (City), a composition design of the Commercial Rooms, Corn-street, and of "Park Hill House," were on view.

On the proposition of Mr. G. H. Oatley, seconded by Mr. W. S. Skinner, a hearty vote of thanks was passed to the President, Mr. Graham C. Awdry, for the work he had accomplished for the Society during the past year of office, and a similar vote was accorded to the retiring Hon. Secretary, Mr. C. F. W. Dening, for his three years' service.

COMPETITION NEWS.

It must be understood that the following paragraphs are printed as news, and not as advertisements; and that, while every endeavour is made to ensure accuracy, we cannot be responsible for errors that may occur.

The list of current Competitions is printed on page 392.

New Council Schools, Middlesbrough.

Professor John W. Simpson, F.R.I.B.A., etc., the assessor in this competition, has made the award, and it has been formally adopted. The names of the successful competitors are:—First (No. 13), Mr. James Forbes, Licentiate R.I.B.A., Middlesbrough; second (No. 5), Messrs. Kitching & Lee, Middlesbrough; third, (No. 2), Mr. A. Forrester, Middlesbrough. The cost of the school buildings is estimated at £19,800.

School, Hyde.

A limited competition has recently been held at Hyde, Cheshire, for an elementary mixed and a "Special Standard" school, the whole to accommodate 1,150 children. Ten firms were invited to compete, and the assessor, Mr. Percy S. Worthington, M.A., F.R.I.B.A., has made the following award:—First premium, Mr. F. Quentery Farmer, of Stalybridge; second premium (£30), Mr. C. T. Adshead, of Manchester; third premium (£20), Messrs. Halliday & Paterson and C. Gustave Agate, of Manchester.

Whitehaven Housing Scheme Competition.

In consideration of the following undertaking contained in a letter from the Town Clerk of Whitehaven, dated March 30, 1915, "With regard to the appointment of the author of the design placed first as architect of the buildings, the intention of my Committee has always been that the successful designer should be the architect unless there was some objection to this being so," the Competitions Committee of the Royal Institute of British Architects desire to withdraw the warning to members against this competition which has been published in the R.I.B.A. *Journal* and the professional Press.

The Council of the Society of Architects have received a letter from the Town Clerk of Whitehaven, dated March 30, to the effect that the Housing Committee have decided to appoint a duly qualified architect to act with the Borough Surveyor in adjudicating upon the designs sent in, and that they have also decided to extend the time to which designs will be received to May 10 next. Further, a Housing Committee intend to appoint the successful designer as the architect unless there is some objection to this course. Under these circumstances, the Council of the Society have withdrawn their intimation to members relating to the negotiations between the Society and the promoters.

OBITUARY.

Mr. P. Webb.

We regret to announce the death, on April 17, at his cottage-residence, "Caxtons," Worth, Sussex, of Mr. Philip Webb, aged eighty-four years. Mr. Webb was the son of Dr. Charles Webb, of Oxford. When fifteen years old he was articled to an architect in Reading, and upon the expiry of his apprenticeship he entered the office of G. E. Street, then in Oxford. Following Street to London, he became the fellow pupil, in Street's offices, of William Morris, whom he, together with Sir E. Burne-Jones, D. G. Rossetti, Ford Madox Brown, George Meredith, Mr. G. Campfield, and Mr. O. J. Faulkner, joined in 1861, under the name of Morris, Marshall, Faulkner & Co., at No. 17, Red Lion-square, W.C. The firm was established with, it is said, a capital of £7 and an unsecured loan of £100. The original circular says, "These artists . . . have felt more than most people the want of some one place where they could either obtain or get produced work of a genuine and beautiful character." For them Mr. Webb designed much decorative work, comprising tiles, tapestries, wall-papers; and with Morris he, about fifty years ago, decorated the dinner-room in South Kensington Museum; he was the co-founder with Morris of the Society for the Protection of Ancient Buildings. Mr. Webb was the architect of a large number of houses in Surrey and other counties; amongst his more important work we may mention "The Red House," at Bexley Heath (1859) for Morris, forming an early instance of the red-brick revival;* No. 19, Lincoln's Inn-fields, in 1868, and illustrated in the *Builder* October 2, 1897, No. XIX. of our series, "Some London Street Architecture"; a house on the Green, Kensington Palace-gardens, W., for Lord Carlisle, 1868; the studio and marble corridor in the house of Val Prinsep, R.A., Holland Park-road, W.; additions, including the drawing-room, library, and many bedrooms, in 1886 and 1897, to Great Tangley Manor, Wonersh, Surrey, for the late Mr. Wickham Flower; New Place, Welwyn, Herts; "Coneyhurst," Ewhurst, near Dorking, in or about 1882; "Clouds," on the Downs, near Salisbury (1880), for the late Hon. Percy Wyndham, which was rebuilt in 1890 after the fire; a mansion at Rounton, Yorks, N.R., for Sir Lothian Bell, in 1875; additions (in 1891) to Forthampton Court, Gloucestershire, formerly the home of the abbots of Tewkesbury; and Brampton parish church, Cumberland, to which he added the massive tower and the spirelet in 1906. He made the designs of the mace presented to Birmingham University by Mrs. C. G. Beale; and for a wing, with picture-gallery, at Lockleys, Herts, the home of the late George E. Dering. Mr. Webb retired from active practice fifteen years ago. The funeral was fixed to take place on Tuesday (April 20) at Golders Green.

* After Morris's death the house was sold at auction, in December, 1902, for £2,850. Burne-Jones painted the drawing-room walls in tempera, and fitments and stained-glass windows were by Morris.

Mr. G. Holme.

The death, on April 17, at his residence, Plas Trevor, Llandudno, is announced of Mr. George Holme, architect, in his ninety-third year. Among the important buildings in Liverpool which Mr. Holme designed and erected, in conjunction with his nephew, the late Mr. Frank Holme, are the Conservative Club in Dale-street and the County Sessions House in Islington. For a number of years he held the office of bridge-master and surveyor to the West Derby Hundred. The deceased was also well informed and greatly interested in archæological matters.

Mr. H. M. Matthews, M.Inst.C.E.

The death, at his residence, "Clayton," Surbiton Hill Park, is announced of Mr. Henry Montagu Mathews, C.I.E., aged eighty-three years. Mr. Mathews entered the Indian Public Works Department in 1868, and served in British Burma; he was deputed to examine and report upon the coast lighthouses in 1878, and was then appointed Engineer-in-Chief of the Rangoon and Irawadi Valley State Railway, for which he carried out the extension from Toungoo to Mandalay. In 1880–6 he officiated as Chief Engineer and Secretary to the Chief Commissioner and as Chairman of the Rangoon Port Trust; he retired in 1887.

Mr. T. W. Moss.

The death, on April 13, is announced of Mr. Thomas Walter Moss, aged sixty-two years, late of No. 7, Gray's Inn-place, W.C. Mr. Moss was the architect of "The Globe," New Compton-street, Soho, for the Winchester Brewery Company, and of a house at Upper Warlingham for Mr. D. G. Crisp.

Mr. W. E. Martin.

The death is announced of Mr. W. E. Martin, architect, in his seventy-second year. Quite recently he carried out the work of restoration of the old church at Rahan. He was employed at various times, it is stated, in many Continental cities, including Paris, Reims, and Vienna, in the work of restoration and preservation of ecclesiastical edifices.

GENERAL NEWS.

Works for Relief of Unemployment.

The net total of the Estimates for Civil Services for 1915–16 is £59,017,468, as compared with original estimates of £57,065,816 for 1914-15—an increase of £1,951,652. In a Memorandum Mr. F. D. Acland, Financial Secretary to the Treasury, explains, however, that supplementary estimates were presented last year, so that the actual increase is only £132,828. A sum of £250,000 is included for works for relief of unemployment, to be expended only in the event of serious unemployment arising in the building trade as the war goes on; a special vote is taken to assist certain universities and colleges and other institutions whose receipts from fees from male students of military age have been reduced.

Government Offer of Help to Architects.

A scheme to help professional men who have been hard hit by the war was outlined on Tuesday by Mr. Henry Aldridge, Secretary of the National Housing and Town Planning Council, at a conference in London. The Government's decision not to make loans to municipal authorities has seriously affected architects, road surveyors, and men in kindred professions. Mr. Aldridge said that during the past four or five months a Committee representing the Royal Institute of British Architects, the Surveyors' Institution, the Housing and Town Planning Council, the London Society, and the Town Planning Institute, had been considering a scheme to give relief to professional men by providing them with employment. The Committee's scheme has been carried to the stage that sanction has been given by a Government Committee, which has influence with the Prince of Wales's Fund, to the employment of professional men on civic work, such as gathering statistics which might be placed on exhibition in graphic form for the use of local authorities in dealing with the problems they would have to face in the future. The Government has promised, if a proper scheme can be prepared, to bear the cost of setting the men to work, stipulating that the work shall be carried on in complete harmony with the local authorities.

It was proposed to provide work in:—South Staffordshire and the Potteries, South Lancashire, South Wales mining valleys, South Yorkshire new colliery area, Lanarkshire, Northumberland, and Durham.

The Society of Architects.

The Society of Architects held a very successful concert on Wednesday evening, April 14, in the King's Hall of the Holborn Restaurant. Major E. C. P. Monson (T.D.), President of the Society, occupied the chair, and was supported by Messrs. A. Alban H. Scott (Vice-President), Edwin J. Sadgrove, F.R.I.B.A. (Vice-President), Percy B. Tubbs,

F.R.I.B.A. (Past-President), George H. Paine (Hon. Secretary), P. M. Beaumont, A.M.Inst.C.E. (Hon. Treasurer), Herbert O. Ellis, Col. F. S. Leslie, F.C. Moscrop-Young, Edward J. Partridge, J. Herbert Pearson, Noel D. Sheffield, B. R. Tucker, Thos. Wallis (members of Council), Messrs. R. G. Bare, H. Clayton, S. Everard Davies, W. Dewes, Chas. Dunch, A. H. Durnford, A. E. Fewster, F. J. Fisher, Col. C. J. Higgins, S. T. T. James, A. Y. Mayell, J. H. Pitt, J. W. Shaft, G. Stapley, A. H. Salisbury, L. Sylvester Sullivan, A.R.I.B.A., Geo. Trotman, A. F. A. Trehearne, J. F. Wetherell, C. McArthur Butler (Secretary), (members), Mr. H. V. Lanchester, F.R.I.B.A., and others.

There was a large gathering of visitors present. An excellent programme had been arranged, which was contributed to by artistes of considerable talent and ability, and all who were present had a very enjoyable evening.

£4,000,000 for Public Buildings.

According to the Civil Service estimates, which have just been published, the sum of £4,062,742 will be required during the year 1915–16 for public works and buildings, which figure shows a net increase of £317,535 compared with 1914–15. Royal Palaces account for £62,250, and £74,000 is set aside for the Houses of Parliament, which represents an addition of £7,300. New works and alterations will claim £4,140, as compared with £15,400 last year. There is a drop of £4,395 for maintenance and repairs, but the sum of £10,780 necessary for maintenance of approaches and gardens means an increase under this heading of £8,025. The provision of wood block paving to Old Palace Yard and St. Margaret-street—£8,800—solely accounts for this extra expenditure. With regard to the "Art and Science Buildings" there is a falling off of estimated expenditure of £9,400, and the diplomatic and consular buildings will take £52,610 less. Another £12,600 is required for insurance and labour exchange premises. Woolwich Arsenal housing scheme will cost £6,000, and £8,870 is asked for further structural alterations at the National Gallery to remove or minimise risks from fire. The contribution from the Government to the cost of the improvement of the approach to the Mall is put at £32,000.

Town Planning at Scarborough.

The Scarborough authorities have recently adopted a town-planning and housing scheme, the areas affected being in the Central and East Wards, the oldest and most congested districts in the town. The scheme includes the construction of a new thoroughfare from the Newborough-street end of North-street (near the site of the Old Bar) to a point on the Sandside near the entrance to the Marine Drive and Promenade, the length of the new street to be approximately one mile. The scheme will be carried out in sections, the work being spread over a number of years.

New Town Planning Schemes.

The Local Government Board, we understand, have given authority for the preparation of nine further town-planning schemes under the Housing and Town Planning Act, 1909. The schemes are authorised to be prepared by the Corporations of Newport (Mon.), Southend-on-Sea, Wallasey, and York; the Urban District Councils of Beckenham, Hendon, Heston, and Isleworth, and Ruislip-Northwood; and the Rural District of Honiton.

Croydon Town Planning.

An inquiry was held at Croydon on Tuesday by Mr. G. L. Pepler, Local Government Board Inspector, into an application by the Town Council for permission to prepare a town-planning scheme in reference to the area in the northern part of the borough known as the Beulah-hill district, about 800 acres in extent.

Crystal Palace Engineering Society.

The "Wilson Premium" for the best paper read before the Society (affiliated to the Society of Engineers, Incorporated) during the present session has been awarded by the Council to Mr. Kirpa Ram for his paper on "How to Prepare a Sanitation Scheme." Other papers read during the session were "Reinforced Concrete," by Mr. Joti Ram Goel, and "The Science and Practice of Photography," by Mr. T. J. Boyer. The "premium" was presented to Mr. Ram by Sir John Jackson, K.C.V.O., LL.D., F.R.S.E., M.P., Associate of the Institution of Civil Engineers, on the occasion of the 127th distribution of certificates of the School on April 15, at which he presided.

The Building Trade in Glasgow.

The trade unions in the Glasgow building trade are strongly opposed to the Corporation's acceptance of the Local Government Board's advice to restrain public work until after the war. Their officials, at a conference with the Labour group, argued that it should not apply to the building trades, which were now practically depending on public bodies for employment. It was stated that the stoppage of Corporation building work would throw 500 joiners out of employment and would affect other trades proportionately. Of 400 plasterers in the city 100 have enlisted, and of the remainder 25 per cent. are unemployed. According to the unions 75 per cent. of the building work carried on by private enterprise has been stopped by the war, and consequently a crisis will be reached if the Corporation do not proceed with the building schemes as approved. It is also stated that the masons remaining at the trade are unfitted for military service, either on account of age or physical disability, and the same, it is added, applies to other trades concerned. The Corporation is to be asked to receive a deputation on the subject, and representations will also be made to the Local Government Board with a view to work being continued in the building line.

CORRESPONDENCE.

Builders and the Income Tax.

SIR,—In your issue of the 9th inst., I desire to point out that your last paragraph but one in above article beginning "Where accounts," and ending "actually received," is utterly at variance with a system of "three-year accounts" I have adopted since the year 1881, and with invariable success. I venture to assert that it is entirely wrong to suggest to any trader that "a cash account" be put in in connection with income-tax returns. The pivot of the whole matter is "ascertained profits" against "losses and expenses" properly and systematically brought into account, and if done on right lines no surveyor should ask for anything on the lines you suggest. I trust I am not too didactic, but after my many years' experience I feel that any one new to "income-tax returning" would enter into it on quite wrong lines if your paragraph is followed strictly. P. R. W.

The British Academy and the British School in Rome.

SIR,—As a student of archæology and a lover of art, as well as in the circumstances of my origin as a British subject and my adoption of the Eternal City as my place of permanent abode, I have naturally been much interested in the brief but graphic sketch of the historic British Academy by "S. B." in your recent issue, and it seems to me deplorable that an institution with so long and interesting a record for capability in its own field should have its identity compromised by too close an alliance with the British School of Archæology, a comparatively recent foundation, and one which yet has its spurs to win in its own proper domain, for which, in my opinion and that of many others, its equipment is singularly inadequate. Even were this otherwise, it is impossible to see what useful purpose could be served by the arbitrary transference of the Academy from its present central situation in the midst of the artist quarter to the remote Villa Giulia, outside the city gates. That some of the most zealous frequenters of the Academy might still continue to visit it I do not necessarily question, but to the vast majority of British artists and the many distinguished Italians who find it useful and convenient to drop in frequently for an hour or so of study each day where it now is, the having to go out of the city for that purpose must seem both inconvenient and unnecessary in the extreme, and in this way very many artists of all sorts, celebrated and otherwise, both British and Italian, have severely criticised to me the extraordinary proposition, so destructive of their true interests, which has been so arbitrarily urged forward by those who can only see and only care for the advantage to be thus gained by the British School; but it does seem to me that it is a great mistake to antagonise so large a number of artists (many of whom are of great prominence) in order to please a mere handful of archæological students, if, indeed, as I am disposed to doubt, even these wish to sacrifice the interests of their artist fellow students; and I write this the more freely as I personally should be a gainer by such a transference, as I happen to live much more in the vicinity of the new site than of where the Academy is now situated.

But surely principle is to count for something, and the minute minority—I am officially informed that four persons have signified their desire for amalgamation—who, like myself, have something personally to gain by the transference, should remember Bernard Shaw's answer to the "booer" at the first production of one of his plays, when he struck into mute oblivion this one feeble voice of protest to the success of the play by saying, "Sir, I cordially agree with you, but what are you and I among so many?"

It is within the bounds of possibility that the future growth of Rome may tend in the direction of the Villa Giulia, but that may be—nay, there is every probability that it will be—many decades yet to come, and in the meanwhile what are the art students of all sorts to do?

And why, after all, join together in an unnatural bond two institutions which have such totally separate aims and requirements? I do not speak here of the British School; but the Academy, with the most restricted means, has for a large number of years fulfilled, and more than fulfilled, its ends and obligations. One may readily suppose that, with further means at its disposal, its future activities would be even greater. Why, then, sink its really distinguished individuality beneath that of a sister institution, to say the least far less remarkable in this respect? The American Academy of Art is, indeed, housed in the same building as the American School of Classical Studies, but even in that unique instance its distinct individuality is carefully preserved by a wholly independent board of management, an entirely separate director and a different secretary. On the other hand, with all the other nationalities, the two institutions, with their different aims and duties, are kept altogether apart, and why, then, should Britain signalise an act of unnecessary departure by forcing two such institutions under the same general management, as has been so unwisely urged and so arbitrarily and unscrupulously forced forward?

If the personal influence in England of a minute minority, who care nothing for the interests of art and, if the truth must be told, as little for those of archæology, is to hold sway over the vast number of those of us here really vitally interested in the question at issue, and the British art students are to be driven by the force of unjust circumstances into the uncomfortable and wholly inadequate studios of the Villa Giulia, then in heaven's name why add unnecessary insult to injury by depriving the British Academy of its separate and totally independent management and sink its historic and meritorious individuality beneath that of the younger institution, in gross violation of the opinions and sentiments of the overwhelming majority of practically every one of us here, not to mention the interests and sympathies of the many celebrated Italian artists who honour and utilise the British Academy in its present eminently convenient situation and under the highly satisfactory administration it has so long enjoyed, the successful results of which are widely known, and who are at present our hearty well-wishers, but by such an act as is proposed must necessarily be permanently alienated from us?

If, however, the home administration feels an irresistible impulse to be guilty of some particular folly in regard to these two institutions, in order to show its power over them, then let it at least not take a step so unhappily calculated to bring wide notoriety to the ridicule and opprobrium with which such is bound eternally to cover us. May it not take some other shape, and at least let our shame be veiled by the not too transparent drapery of some moderately plausible excuse?

A. H. C.-P.

ILLUSTRATIONS.

Italian Palaces.

THERE are increasing evidences as time goes on that English architecture will probably lose the insular character which has distinguished it during recent years. The influences of the Arts and Crafts movement are occasionally manifest in a harking back to earlier forms of English design, but as the years go by these indications become more and more like the feeble backwash at the edge of a strong current which is setting definitely in the direction of the resumption of the traditions of the Renaissance. As our own Renaissance masters studied the contemporary work of Italy and France, we propose to give a series of examples from the same sources, which we consider will be of use to the student and practising architect alike.

The "Hall of Commerce," Threadneedle-Street.

IN July, 1842, the attention of architects was directed to a building of unusual design then completing in Threadneedle-street, while speculation was current regarding the purpose for which the building was intended, and when the scaffolding was cleared away a storm of criticism raged over the unique design of the front. Even the name of the architect was doubted by the majority, and, despite the fame of such classicists as Cockerell and Barry, many there were who urged that a genius hitherto undiscovered had suddenly appeared. From the ordinary practitioners of that day there issued a chorus of disapproval, such remarks as the following being usual: "Why, the building has no distinguishing order; it is a hybrid; true, it follows Barry's astylar mode; it savours of the Athenæum, the Travellers' and the Reform Club houses, but it is not strictly Italian, you know. Besides, Hardwick's City Club round the corner is far more usual." Public astonishment and admiration, however, were by no means abated when the facts became known that no architect at all had been employed for the design. During the 'thirties there flourished a certain Edward Moxhay, a person of artistic temperament, who appears to have combined the business instinct for making boots and shoes with the manufacture of biscuits. Moxhay had decided inclinations towards architecture, and spent his leisure travelling abroad to improve his knowledge of classic art. In 1830 this enterprising gentleman purchased from the Corporation of London the site of the French Protestant Church which was a very ugly building. It was not, however, until 1838, after the Royal Exchange had been destroyed by fire, that Moxhay decided, taking advantage of the delay in the rebuilding scheme caused by the haggling over the architectural competition, to supplant the reconstruction of the Exchange by the erection of the "Hall of Commerce," at a total expenditure of over £70,000. The extraordinary thing is that the design of the building and the selection of ornament were Moxhay's own; possibly some unknown journeyman architect hacked out the constructional plans and obtained the approval of the City Corporation and the District Surveyor, but the scheme *in toto* was unquestionably that of the amateur opportunist. It was remarked at the time that the design bore no resemblance to the work of any other architect in England. The building as originally planned comprised the following:—A commercial news-room, a reading-room, and another room for commission agents and travellers to show their samples; there were also sale-rooms, where bubble companies could hold board meetings, and, wonder of wonders, an early instance of a safe deposit. The original subscription demanded from City gentlemen who desired membership was five guineas; but when the Royal Exchange re-opened this speedily dwindled until it fell to the nominal sum of £1 10s. 6d., and finally the Hall closed its doors. For a time the London Bank held possession of the place, and found ample room for ledgers and safes in the double basement and vaults, forming the lower floors, and divisions beneath the apsidal end. Eventually the London Bank became the property of the Consolidated Bank, and this concern ultimately was incorporated with Parr's Bank. Mention must be made of the sculptor, L. M. Watson, who imparted so much character to the design, both internally and externally. Watson's fine allegorical frieze, which unifies the group of five openings, is unique in composition; it is of sufficient relief to bear comparison with the mouldings and cornices of the windows below and at the same time is subordinate to the cornice and frieze. Mr. Hanslip Fletcher's wash drawing of the interior, reproduced in this issue, shows the admirable proportions and decoration of the main hall, which is unusually well suited to the purpose of a banking institution. There is nothing niggardly in the scale of this hall; one feels, as one stands at the counter, that one is in a modern first-class New York bank, so compelling is the proportion and the decoration so pleasing in its reticence.

The façade to Threadneedle-street engaged our attention for years, but we could never locate the history of the building until quite recently, and our surprise at finding it to be the work of an almost unknown amateur was great. The first thing about this front that impresses the architectural critic is that it possesses a familiar look as though some stock model had been followed for the design. We have called to mind other astylar buildings of similar proportions, and the nearest to it we can recollect is an illustration of the Timbre Impériale in Paris (now demolished), which Krafft illustrated in his Paris doorways. In Moxhay's building there are a few faults which we must mention—the treatment of the pediment to the central door and the weak character of the cornicione and the rabesco, or foliage, in the entablature, which is too rambling and loose to accord with the character of Watson's sculpture. A writer of the period who admired "the Threadneedle-street structure" wrote the following criticism of other buildings, which applies with even greater poignancy to much of the trashy work of the present day: "Many buildings are, whatever they may be in regard to internal accommodation, more or less abortive in point of design—the works of mere builders, not of architects. The same remark applies to the offices belonging to many assurance and other public companies. If not the buildings themselves, the designs are for the most part propped up entirely by columns or pilasters, for there is generally nothing else architectural about them; and those might very well be spared altogether, as being not only useless in themselves, but because they become ridiculous affectations when mixed up, as is usually the case, with mean and insignificant features, which are thereby made to look some degrees more trivial than they otherwise would." We have little to add to this just criticism, which in the "naughty 'forties" was doubtless well merited, but which to-day might be applied as a mild scourge to the backs of those artists who are blind to the ordinary requirements of good taste. We have sharp recollections of several new structures in the City which, though acclaimed by City people for the dazzling white fronts of Portland stone, expensive bronze castings, and fruity sculpture, combine such display with a total disregard for even the elements of proportion. We look upon such structures with loathing; every vice inheres in the facial aspect, from the pavement line to the reckless arrangement of tanks and chimneys cutting into the clouds. Cockerell, lecturing at the Royal Academy, once complained of the "rottenness and sottishness" of his own times; if he were alive to-day his opinion would doubtless be convincing.

The "Hall of Commerce," Threadneedle-Street, E.C.

The Choir Screen, Church of the Holy Spirit, Clapham Common, S.W.

THE new oak screen is in the form of a low parapet placed under the rood beam. The twelve carved panels into which the screen is divided bear representations of Angels or Cherubim bearing instruments of music. The six on the north side hold the Tymbre, Busine, Cithare, Orgue, Guiterne, and Psalterion; those on the south side the Flute, Cymbal, Lyre, Orgue, Rubèbe, and Cemparon. The inscriptions on the panels run, "O ye angels of the Lord, bless ye the Lord" and "Unto Thee all angels cry aloud, the heavens and all the powers therein." The screen is the design of Mr. H. P. Burke Downing, F.R.I.B.A., the architect of the church, and the work has been excellently modelled and carved by Mr. N. Hitch, sculptor, of Vauxhall.

Buildings and Dwellings for Small Holdings.

THESE illustrations are given in connection with an article appearing on page 383.

BOOKS RECEIVED.

HEATING AND VENTILATING BUILDINGS. By Rolla C. Carpenter. (London: Chapman & Hall, Ltd. 15s. net; New York: Jno. Wiley & Sons.)

COMPANY LAW AND PRACTICE (12th edition). By Herbert W. Jordan. (London: Jordan & Sons, Ltd. 3s. 6d. net.)

ELECTRICAL ENGINEERING (Vol. I.). By T. C. Baillie. (London: Cambridge University Press. 5s. net.)

REPORT ON THE BUILDING AND ORNAMENTAL STONE OF CANADA (Vol. III). By Wm. A. Parks; and GYPSUM IN CANADA. By L. H. Cole. (Office of the High Commissioner for Canada, 17, Victoria-street, London, S.W.)

INDIVIDUALITY. By Charles Francis Annesley Voysey. (London: Chapman & Hall, Ltd.)

VALUATIONS. By Samuel Skrimshire. (London: E. & F. N. Spon, Ltd. 10s. 6d. net.)

GLASGOW TOWN-PLANNING SCHEME.

The Glasgow Corporation have applied to the Local Government Board for Scotland for authority to prepare a town-planning scheme with reference to lands at Kennyhill and Riddrie, situated within the area of the Corporation and bounded by Cumbernauld-road, the Monkland Canal, and the Caledonian Railway.

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MEETINGS.

FRIDAY, APRIL 23.

Institution of Mechanical Engineers.—General meeting. 8 p.m.

SATURDAY, APRIL 24.

Edinburgh Architectural Association.—Visit to Edinburgh Castle (David's Tower, etc.). 2.30 p.m.

MONDAY, APRIL 26.

Surveyors' Institution.—Adjourned discussion on the papers delivered by Mr. C. S. Joseph and Mr. R. Strachan Gardiner on "The Report of the Land Inquiry Committee on Housing" will be reopened by Mr. W. E. Riley, Architect of the L.C.C. 8 p.m.

TUESDAY, APRIL 27.

Builders' Clerks' Benevolent Institution.—Thirty-seventh annual dinner, at the Holborn Restaurant (King's Hall). 6 for 6.30 p.m.

Illuminating Engineering Society.—Discussion on "Visibility: its Practical Aspects," will be opened by Messrs. C. C. Paterson and B. P. Dudding. 8 p.m.

Royal Institution.—Mr. Banister Fletcher on "The War on Belgian Architecture." 3 p.m.

Architectural Association of Ireland (Dublin).—Annual general meeting. President's valedictory address. 8 p.m.

Association of Supervising Electricians.—Mr. H. C. Hands on "Lightning Conductors." 8 p.m.

THURSDAY, APRIL 29.

The Architectural Association.—Special combined meeting of Junior Art Workers' Guild and the Architectural Association, at No. 6, Queen-square, Bloomsbury. Papers by Mr. H. M. Fletcher and Mr. Edward Spencer on "The Interdependence of the Architect and Craftsman." 8 p.m.

Society of Antiquaries.—Ordinary meeting. 8.30 p.m.

THE RED CROSS SALE AT CHRISTIE'S.

THIS sale, organised for the benefit of the British Red Cross Society and the Order of the Hospital of St. John of Jerusalem in England, is probably the most remarkable event in the history of Christie's. The catalogue, drawn up free of all charge by various experts, is itself of permanent historical interest, ranging as it does from jewels to portraits, from Nelson relics to screens and altar frontals, and its sale alone will benefit the Societies to the extent of hundreds of pounds; but to all true amateurs the reading of such a catalogue is as nothing to the sight of the originals, and all who have not yet been to the famous Rooms should do so without delay. Among the most striking objects sold on the first three days are the Sèvres figures sent by M. Paul Cambon; the Sèvres *cabaret* with portraits of Napoleon and Josephine, in the original leather case; the exquisite Italian terra-cotta bust of a saint from Sir Edward Speyer; the admirable little bronze of two bears fighting by J. M. Swan, R.A.; and the Louis XIV. bronze bust of a faun, a work worthy of the Hellenistic age. There is a fine bust of Sir Walter Scott by an unknown sculptor, that lacks, however, the charm and delicacy of the more famous Chantrey bust; a terra-cotta bust of Whistler by Boehm, sent by Princess Louise; some really admirable silver, including the sacred gift of two Irish potato rings belonging to Samuel Pepys Cockerell, presented by his parents in memory of his death in Egypt in the service of his country; and a tablespoon of 1758 engraved with the initials and coronet of Nelson; two lace dresses which formed part of the trousseau of the Princess Charlotte; various exquisite specimens of needlework and embroidery, English, Italian, and Japanese; and as quaint and interesting a relic as is to be found even in this collection—a Dutch brass parrot-cage, seventeenth-century to all appearance, surmounted by a crown, and on an elaborate repoussé stand, which might have come out of a picture by de Hoogh or Mieris. The furniture is often of great interest, especially the marvellous suite of Aubusson chairs sent by Mrs. Richard Taylor, with its Teniers subjects; and two prizes await the affluent collector of musical instruments—a harp by Sebastian Erard and an authentic inscribed Stradivarius with a long pedigree. There is one exhibit included in the second section of the sale against which we feel moved to utter a serious protest—a screen by Miss Maud Earl, with three dogs painted with all her usual *verve*, but so entirely lacking in decorative quality as to be an admirable example of that wisest of proverbs, "Let the cobbler keep to his last." As individual studies they are excellent; as the decoration of a piece of furniture these dogs are utterly out of place. It is worth while, indeed, to compare this probably costly failure with the interesting early Spanish leather screen (No. 143), painted with rural and city scenes on a red ground, a work curiously suggestive of Oriental influence and convention, but full of charm; such a comparison will show beyond a doubt the failure of undiluted realism and the value of schematic treatment when applied to decorative purposes.

To many, if not to most, the pictures will form the most attractive section of the sale. They are astonishingly various in merit, some indeed are frankly unworthy of their position, but many are of high historical and artistic interest. We would single out for special mention the exquisite "Glencoe" of Mr. D. Y. Cameron, the one modern landscape of the first rank included in the sale, but there are some charming water-colours of temporary as well as permanent interest, notably the "Dinant" of Mr. Burleigh Bruhl, R.B.A., before 1914, and the "Church at Etavigny Destroyed by the Germans," of Miss Janet Procter; a buyer who could afford the two would be the enviable possessor not of fine water-colours only, but of an eternal commentary of German "Kultur." Charming works are sent by Stott and La Thangue, by Coates and Eric Forbes Robertson; and a word of special praise must be given to the powerful Goya-like study of Mr. James Pryde, N.P.S., entitled "A Souvenir of a Costume Ball." Among the modern black and whites, Conder's lithograph of "The Buddha," with its strangely symbolic bisexual figures, and to the noble dry-point by Mr. Francis Dodd; but these are only some among many that cry aloud for mention. Of the earlier nineteenth-century schools there is an interesting Joseph Nash, an Eastlake, charming in its own mild way, an Etty-like "Musidora" by A. J. Woolmer, and many curious theatrical prints suggestive of Thackeray's "Ravenswing" and of the bedroom gallery of Mr. Harry Foker. Incredibly different from all of these are the early Millais study of a "Nun" (803) and the portrait by Ford Madox Brown, which seem divided by centuries from the contemporary "Duke of Wellingtons" by Alfred Tidey and Mrs. Mee; while there are few more decorative nineteenth-century sketches than Leighton's study for the "Death of Brunelleschi," sent by Mr. Humphry Ward.

But when all is said the gems of the collection are the eighteenth-century portraits, which range from miniatures by Smart and Englehart to an interesting Wilson, the old "Parish Church at Willesden," and to some portraits of high, if not of the highest, rank. Pine's "David Garrick," a half-length of the great actor, is not in good condition, but it is almost a great portrait, and there is no escape from the piercing eyes which were that great actor's peculiar charm; there is a "Mrs. Opie," by John Opie, which one would give much to see in the National Portrait Gallery; and the "Captain Cook," by Sir Nathaniel Dance, is a work so brilliant in character, so national in interest, that one grudges it to the walls of Christie's at a time when all purchasing grants, inadequate at the best of times, have been withdrawn by a stupid and niggardly act of Treasury despotism from all Government institutions. Singularly interesting, too, is the little Devis portrait of the Marquis of Bute—the best-hated Prime Minister that ever England had—and his wife on a terrace, possibly, we think, at Bath; this is a good example of a rare master, and again would find its natural home on the walls of the National Portrait Gallery.

The Italian pictures are not on the whole important, but there is a lovely little "Marriage of S. Catherine" by Andrea Sacchi, a "Holy Family" by Titian, not of the first rank, and a well-known, if not very admirable, Pamigiano. Omitting, for lack of space, all detailed reference to the books and manuscripts, the personal relics, and the drawings, we must conclude with a special mention of the two decorative panels of Italian marqueterie, with figures of saints (No. 1193), which recall the admirable work in the chancel of St. Mary-le-Strand, and the truly admirable tortoiseshell casket presented by Lady Dundas (No. 1071A), which is surmounted by a figure beautifully modelled—as the archæologist will recognise, though the catalogue does not—from the famous statue of a Suppliant in the Barberini Palace, from which so many treasures have come to other parts of Europe.

NOTE.—Since the above notice was written a generous donor has purchased the silver potato rings for the sum of 1,000 guineas, and with a great and delicate generosity has presented the rings to the lamented owner's parents. The Red Cross Society and Mr. and Mrs. Pepys Cockerell are alike to be congratulated, and the nation envies and admires Lord Newlands for a noble opportunity thus nobly used.

FIFTY YEARS AGO.

The Presidency of the Institute.

A GREAT deal of anxiety is expressed on all hands as to the results of the present disputes. It is held very strongly by a numerous body of the members, irrespective of party, as by us, that a professional President ought to be appointed; and it is understood that Mr. Tite has in the press a powerful appeal in favour of this view, and in urging the election of Mr. Scott, or, if he declines, Mr. Salvin. It is impossible to question the disinterestedness of such an appeal, if it is to be recognised as the act of what we may call the Eclectic party. We are informed, moreover, that overtures have been made towards the negotiation of some friendly basis of compromise; and all true friends of the profession and the Institute would, no doubt, be glad to learn that such a measure had been successful.

Of all professions at the present day architects surely require to remember the trite maxim that "union is strength," and nothing can be more fatal to the common good than anything like partisan violence. A fair competition of rival opinions for public favour is not to be discouraged; but the moment this ripens into unfriendly discord it is time for all wise men to pause and reflect. Like a goodly house, the Institute has taken many years to build and decorate and finish; but *if the foundation give way*, what then? A few ill-advised friends have certainly made an ugly dig or two at it lately.

[*** We give the above extract from the *Builder* of April 22, 1865.]

NATIONAL HOUSING AND TOWN PLANNING COUNCIL.

The Council of the Society of Architects have, at the invitation of the National Housing and Town Planning Council, appointed delegates to attend a series of conferences which are being held in London on April 20 and 21; Edinburgh, April 27 and 28; Liverpool, May 12 and 13; and Leeds, May 19 and 20.

ARCHITECTS' VOLUNTEER TRAINING CORPS.

The Council of the Society of Architects, in response to an appeal for financial assistance from the Committee of the Architects' Training Corps, which now forms the Fourth Battalion of the Central London Regiment (Volunteers), is sending the Committee a donation of twenty-five guineas towards the Preliminary Expenses Fund. Major E. C. P. Monson (T.D.), President of the Society, has been gazetted Sub-Commandant of the Corps, and will be glad to hear from any members of the Society who are not eligible for H.M. Forces and have not already joined any other volunteer corps, with a view to their joining the Architects' Corps.

ARCHITECTURAL SCHOOLS SECTION.

PROBLEMS FOR STUDENTS.

THE various architectural schools are in different ways training the younger generation of architects how they should deal with broad problems of design which can actually fall to the lot of a few fortunate members of their ranks in after years. Such problems in design as the forecourt of a royal palace, a terminal railway-station in a capital, and many others we might mention, are calculated to make the student think on broad lines and constitute a most excellent mental exercise, calling upon his powers of composition and necessitating draughtsmanship of a high order. But side by side with these studies it is very desirable that the student should give some time and thought to some of the practical problems which in the interests of the community must be solved in the near future and which grow more pressing and insistent with every decade. The architect whose position is already established and who has formed his connection has frequently little time or opportunity, even if he has the desire, to spend time and thought on the consideration of new types of design. And yet we all know that the housing question in town and country grows yearly more acute, and engages the attention of municipal and county authorities, Government departments, employers of labour, and those whose philanthropy assumes a practical form. We think that those who are about to enter the active ranks of the profession would do well to study such problems, to acquaint themselves with the defects which at present exist and the remedies proposed, and then consider in what directions progress can be made. And we would suggest that such a subject should be first studied entirely from its practical side, as it is important to consider on its merits any solution, whether it accords with our sense of architectural fitness or not. The cheapest and most convenient type of dwelling will have precedence over the most ingenious copy of an old cottage, and, having obtained a type, it will then be the designer's opportunity to see how it can be most architecturally expressed. As Mr. Strachan Gardiner said at the Surveyors' Institution, the cheap cottage movement has shown little more than how economy can be effected by unduly cutting down space. For our part we question whether in the desire to produce economy and picturesqueness architects have not gone too far in reducing head-room. We do not agree with Mr. Voysey in his unqualified defence of low rooms or in his preference for the use of casement windows, though if our aim and object is to reproduce the old English cottage we must accept these and other details which are hardly in full accordance with modern hygiene or convenience. Farms and farm adjuncts, too, will be subjects of present importance, for which reason we give the first part of a paper on the subject in this section. The public attention recently attracted by the attempt to obtain a £100 cottage shows that in studying these problems an architectural student will not be wasting his time, while, as Nature abhors uniformity, such a subject may afford a relaxation from the effort of thinking and designing in the "grand manner," and the architect who first attracts the attention of a large landholder by an ingenious solution of the problem of housing the workers may end by building him a country seat in which his broader knowledge of architectural design may find full employment. Neither do we think that the last word has been said as to the possibilities of the "block dwelling," which must still be built in most of our towns, and the planning and architectural treatment of which is a most interesting problem.

BUILDINGS AND DWELLINGS FOR SMALL HOLDINGS.*

Introduction.

THE Small Holdings Act of 1908 and other legislation since illustrating the altering views of the community on land tenure and amending the conditions attaching to the same, has created an opening for a suitable and practical work dealing with the structures required on agricultural holdings of strictly limited extent.

Those experienced in this subject know full well that "model" designs of general application cannot exist owing to the systems of farming varying so extensively, and to ideally comply with the particular conditions each case requires to be dealt with by experienced hands.

At the same time there are certain rules which should invariably be complied with in designing buildings of this class, and these, together with various suggestions embodying the consensus of present-day opinion, it is the endeavour of the author to submit.

I.—Financial.

The largest class of owners of agricultural land in small holdings at the present time are the landed gentry, but the County Councils bid fair to equal, and perhaps outrival, them as such.

When approaching the question of providing suitable buildings, however, the problem remains the same—a commercial basis must be adopted.

Every increase in outlay by the landlord demands an increase in rent, therefore *the initial cost of the buildings must be reduced to that minimum which in no way limits the producing power of the holding or entails labour on the part of the tenant which might be avoided.*

According to the nature of the structures contemplated so must a percentage be added to the annual rent for repairs and reinstatement, and it follows that *the nature of the buildings must be such that the annual expenditure necessary to keep them in a state of highest efficiency is reduced to a minimum.*

Controversy so rages over the respective merits of brick buildings and those of timber that the subject is dealt with below, but the economic view of the case deserves a little attention here.

Presume that a set of buildings costing £350 in brick and tile or slate can be erected in creosoted timber on a brick or concrete base and covered with Ruberoid for £250, the annual rents may be fairly calculated as follows, viz. :—

1. Management, etc., being the same in each case, is disregarded.

2. The respective lifetimes being calculated and a capital fund being provided to entirely rebuild the structures, no allowance is made for repairs, the result of such repairs being to materially extend the lifetimes.

Brick Buildings.

Cost, £350. Life, eighty years.

	Annual Charge.
Repayment of capital in eighty years, with interest, 3½ per cent. basis	13 1 8
Fire insurance—£350 at 1s. 6d. ...	5 3
Total	£13 6 11

Timber Buildings.

Cost, £250. Life, thirty years.

	Annual Charge.
Repayment of capital in thirty years, with interest, 3½ per cent. basis	13 11 10
Fire insurance—£250 at 2s. 6d. ...	6 3
Total	£13 18 1

If a higher rate of interest than 3½ per cent. is desired, the figures are less favourable still to timber buildings.

The crux of the argument is as to the life of the buildings; but brick buildings, unless "jerry-built," should stand eighty years without requiring serious repair, while it is somewhat doubtful if timber structures will remain in tenantable condition for thirty years without considerable renovations during that period.

II.—Types of Construction.

These vary considerably in different localities, materials at hand remaining in general use for this class of buildings more probably than for any other.

Below the qualities of several types in their broadest sense are analysed; and it is understood that here the farm buildings are alone referred to, the variation in the nature of the construction of dwelling-houses being much more limited.

Brick Buildings.

This method is in its ideal form when all walls are 9 in. thick and the covering of plain tiles—plain tiles because, as a roofing material, they are absolutely sound; their thickness renders the internal temperature as even as can be desired all the year round, and damaged ones are easily replaced.

Slates are slightly cheaper and equally valuable as a waterproof covering, but, being better conductors of heat, as well as much thinner, buildings on which they are used become unbearably hot in summer and cold in winter. If insulation is resorted to by boarding and felting the cost rises beyond that of plain tiles. Apart from this, tiles are far from pleasing to the eye.

Pantiles have the disadvantage of being more or less porous—at any rate, until they have been subjected to several years' "weathering," but are cheaper as a covering than either plain tiles or slates.

The various patent roofing materials, of which asbestos is the principal constituent, are economical, non-conducting, and waterproof, though some architects who are not acquainted with them consider they have not been long enough in use to have satisfied that most stringent and lengthy natural test, the weather, and so doubts are held in some quarters as to their ability to withstand it successfully.

Combined with brick walls and impervious floors, there is no gainsaying that any of these roof coverings produce buildings which are eminently hygienic, and in this respect—as necessary in farm buildings as in an infectious hospital—they can fear no known competitors.

It is more essential to avoid places which shall require cleaning than to provide easy means of cleaning them, and in this connection mention may be made of roof trusses. In many cowhouses and stables the timber roof trusses will be found covered with spider's web and thick with dust, which, owing to their inaccessibility and the short projecting fibres of the sawn surfaces, cannot properly be cleared away. Light steel trusses can be obtained and put together by local workmen for about the same cost, and are to be recommended.

In buildings thus constructed the doors and frames are the only woodwork exposed to the weather, and, these being treated with any of the many creosotic preservatives which can be renewed when necessary by a labourer, the periodic bill for painting contains one solitary item only—the eaves gutter and rain-water pipes.

Stone Buildings.

The foregoing remarks apply generally here, but stone of all kinds, being so much more porous than a moderately hard-burnt brick, there is the disadvantage of the walls in continued wet weather retaining large quantities of water which, when evaporating, considerably reduces the temperature of the surrounding air in a manner exactly similar to damp ground.

The surfaces of unsquared rubble walls are much less even for an internal finish than those of bricks pointed with a flat joint, and are only desirable in those localities where a monetary saving may be effected by their use.

Concrete Buildings.

Save from its æsthetic standpoint, concrete possesses even more advantages than brickwork, and where gravel or other suitable aggregate is very cheaply procured and the amount of work to be executed is sufficient to warrant the construction of the special framing required or the purchase of suitable appliances for making it in blocks, may be used with advantage. The rising price of cement, however, makes the claim to cheapness put forward by its advocates doubtful.

Timber Buildings.

Apart from rapidity of construction and the doubtful one of reduced initial cost, very few advantages can be claimed for these, while they have many grave disadvantages.

The most approved method is to erect creosoted timber framing, having 4-in. by 4-in. heads, sills, and angle and door studs, 4-in. by 3-in. braces, and 4-in. by 2-in. intermediate studs at about 2 ft. centres, covered externally with horizontal feather-edged boards, and having a dado internally about 4 ft. high, finished with a splay-board cut in between the studs; the whole secured every 5 ft. with long anchor bolts built into a brick-in-cement plinth wall, or cast into one of cement concrete, roofed with two-ply Ruberoid or similar

* By Thos. P. Bausor, A.R.I.B.A., awarded prize by Royal Agricultural Society of England for Design of House and Buildings for a Small Holding, 1911.

material laid on ¾-in. boarding, no rafters being used.

The sketch given shows a good method of securing a finish between the woodwork and plinth wall, but it also shows ledges where dirt may lodge, and the spaces between the studs, which are specially suitable for harbouring vermin. The boarded dado, if omitted, certainly obviates the latter possibility, but provides wider spaces where dirt may accumulate, and which, if forming one side of a cow stall, are still more objectionable.

If dadoes are not used, care should be taken to place the boarded side of the partitions inside the stables and boxes, otherwise the boarding will soon be kicked off.

It is nearly impossible to make a good finish of mangers and hayracks, of whatever class, to the timber framing; at the best more vermin harbours are created.

The buildings remain comfortably warm in winter until the wall boards warp or shrink and admit draughts; but in hot weather they become so close as to be uncomfortable for the animals.

Galvanised iron is quite suitable for the roofs of well-ventilated fold yards, but should not be used on places accommodating animals tied up or with restricted space for motion. The conditions are improved if boarding is placed under it; but then the cost exceeds that of the bituminous felts, while it lacks their abilities as non-conductors.

III.—Planning of Buildings.

The Site.

The site should be in convenient proximity to a good road, near the centre of the holding, and as elevated as may be. If the land has been drained it will be an advantage.

Generally.

The main objects to keep in view are (*a*) that the animal inhabitants have to be frequently fed and watered; (*b*) that the dung has to be periodically removed from the building and deposited in a suitable place where the straw with which it is mixed may rot with it; (*c*) that fresh bedding must be as frequently introduced.

The general outline of the buildings depends largely on their extent, but the ideal form is a square enclosed on three sides, with the fourth side open to the south.

If the buildings are not of sufficient extent to enclose more than two sides of such a square, then let them protect it on the north and east.

In cases where the accommodation is smaller still, or of an exceptional character, the yard is best dispensed with.

The disposition of the various accommodation hinges on several points, viz., the food is stored to the best advantage when it is between the stable and the cowhouse, with direct access from each; the piggeries should be as far removed as is convenient from the cowhouse; and the cart-shed should be near the stable.

In addition, there are many characteristics appertaining to each building—mentioned hereafter—to provide for which, at a minimum cost, is not an easy task. While many ideals may be attained in a large farmstead, the restricted size of small ones very much limits the number of possible arrangements in planning.

It is essential that buildings for animals should be of one story only, floors over preventing proper ventilation and satisfactory lighting.

There should be a step of 6 in. up from the ground into all buildings, except the implement house, where the floor may be 3 in. above the adjacent ground, the latter being sloped up to the step so that implements are easily got in but water prevented from doing so.

If the damp-proof course is kept 3 in. above the floors it will prevent liquids from the same rising up them.

Lighting.

From time to time numerous methods have been tried for effectually lighting farm buildings.

Windows in walls, unless placed very high—which they have little chance of being in economically-designed premises—are for ever being broken. If protected with wooden or metal bars they are immediately appropriated by spiders, who spin unsuitable curtains and quickly obscure them.

A very satisfactory method is to fix cast-iron deadlights, which have wide flanges and require no leadwork to make them watertight, in the roof. The cost is about 6s. each, and one dozen will serve for a set of buildings for 50 acres.

Ventilation.

Many experiments have been made in this connection, and it has frequently formed a hybrid with lighting in the form of "hit-and-miss" slides.

Some authorities are in favour of ventilation which can be adjusted by the tenant, but experience shows that it is a most difficult matter to get the class of men here concerned to understand what is required, and they are much more likely to knock a few bricks out of the wall than open a ventilator. If openings are large the result is, in winter, bitter cold in their proximity, it may even reduce the temperature of the whole building, but it does not remove the vitiated air and replace it with fresh.

Openings need not, and should not, be large; what is required is a constant current of air passing through them in a certain direction. The system should, for our purpose, essentially be the "natural" one—outlets at the highest parts of the roof, and inlets in the walls.

The simplest form for outlet ventilation is a number of ventilating ridge tiles, ordinary ridge tiles having an opening in either side with a small pent of the same material projecting over it. The great enemy to all ventilating outlets on roofs, except the ugly and expensive exhaust ventilators, is driving snow; but the ridges recommended offer a very successful resistance.

For inlets, 9-in. by 12-in. galvanised cast-iron louvre inlets serve well. They withstand hard usage, prevent the access of birds, and obviate draughts; they should be fixed 6 ft. 6 in. above the floor, so that the air current may be over, and not on to, the animals. The inside of the brickwork openings are best rendered in cement, the bottom being splayed inwards to prevent the lodgment of dirt; or, if desired, Sheringham ventilators (these are of the adjustable hopper pattern) may be fixed on the inside of the wall, as shown on inset plate.

Buildings should be appreciably warmer when animals are occupying them, and, if this is the case, the vitiated air will find exit at the ridge. That inlets, in excess, become outlets must be borne in mind.

Water Collection.

For cattle clean rainwater is preferable to well water, owing to the general hardness of the latter, and its conservation is a matter which pays for careful attenton.

In most instances the special prevailing circumstances must decide the scheme, so no hard-and-fast rule can be laid down.

A plan which works well is to provide a galvanised-iron tank in some suitable position—the back wall of the root house often proves most convenient—into which all the roofs will drain by gravitation; the bottom of this tank should be kept some 2 ft. above the floor and its height be such that all the inlets can just reach it.

A supply pipe and branches of galvanised-iron may supply cocks by gravitation at such points as the following, viz.:—Over the water trough, in the fold yard, in the stable, and in the cowhouse.

The supply pipe outlet should be kept 2 in. or 3 in. above the bottom of the tank to allow of the collection of sludge, and a draw-off cock may be provided in the bottom for cleaning purposes. An overflow pipe in such position that it may be easily seen is necessary, so that if it comes into use, the tenant may at once fill up all his water troughs and avoid waste.

Frequently it is desirable to combine the soft-water supply of the house and buildings, and in this event an underground tank will almost always prove most serviceable, a light jack-pump being fixed over the sink and another over the water-trough in the fold yard.

Should a public supply be available, this should be looked upon as auxiliary to and not as replacing the rain-water.

Doors.

For economy and efficiency the type serving best are the 1¼-in. ledged and braced, covered with 1-in. tongued, grooved, and V-jointed sheeting, hung with smith-made strap hinges to 6-in. by 3-in. rebated frames, or for large pairs of doors 9 in. by 3 in. To buildings occupied by animals they should open outwards and be in two halves, the lower half 4 ft. high above the floor, and finished to the upper half, as sketch.

The approved height for doors is 7 ft. in the clear, but 6 ft. 9 in. will, where economy requires it, suffice. The net width of openings should be as follows:—Stables and boxes used for horses, 8 ft.; other doors, 3 ft. 6 in., except piggeries, 2 ft. 3 in.; and pairs of doors for implement and root houses, etc., 7 ft. 6 in. or 8 ft.

The brickwork openings to receive the frames will have square jambs, the frames being set ¾ in. back from the outer face of the wall, well dowelled to the thresholds, and horns left on and built into the wall.

Wood lintels over these openings are to be deprecated, their place being taken by flat brick arches, or, to economise height, 4-in. hard stone lintels sitting closely on the heads of the frames.

It is desirable that the fodder and implement houses should be provided with deadlocks, and for the rest malleable-iron S latches, or oak thumbhole latches and catches, and 9-in. barrel bolts may be fitted.

IV.—Feeding Arrangements and Granary.

Generally.

The apartments for the preparation and store of food form essentially the hub of the plan, and in the larger buildings should be three in number—viz., root store, fodder house, and granary—the latter placed for various reasons over the two former.

For convenience these places should possess direct intercommunication with each other and the apartments for housing animals.

Root Store.

It is imperative in small root stores that three walls should be free from door or window openings, and the acme of success is reached when these walls are two sides and an end forming a large bin, with a pair of doors through which a cart may be backed occupying the other end.

Arched openings in the two side walls, placed close to the end containing the doors, give access to the adjacent apartments, preferably to the feeding passage of the cowhouse on the one hand, and the fodder-house on the other.

The best floor for such a root house is of cement concrete, floated fair and having an almost imperceptible fall towards the external doors.

It is desirable that it should be ventilated.

Fodder-House.

This place serves as a mixing-house; it should house the horse corn, such cake as may be required for immediate use, a truss or two of hay, the chaff-cutter, and small tools.

In the larger homesteads, and in smaller ones, if funds will permit, a boiling copper should be fixed.

The floor is best made as described for the root house, but finished perfectly level.

Where the fodder-house has a floor over, the system of lighting recommended is by a cast-iron sash about 3 ft. wide and 4 ft. high. It should be divided into comparatively small squares, so that broken glass may be economically replaced. A stone sill is recommended, for brick ones under hard wear are apt to come to pieces; the upper side should be 3 ft. 6 in. above the floor line.

Granary.

The granary of a small holding holds a somewhat different position to its counterpart on a large farm. The smallholder rarely holds his grain more than a few weeks after threshing, yet its use for the normal purpose during that short period, and its other usefulness throughout the year, renders its inclusion in the accommodation almost imperative.

The floor should be of 1-in. tongued and grooved boards on wood joists (7 in. by 2 in. will frequently suffice), and its surface may conveniently be 8 ft. 6 in. above the floors of the food stores below.

A free circulation of air under the floor of a granary is essential for keeping the grain in proper condition.

The height from the floor to the springing of the rafters inside need not be more than 4 ft., for with purlins sufficiently strong to be treated as beams, no roof trusses need be inserted to make "head-room" a consideration.

The most suitable skirting is a fillet out of 3-in. by 3-in. deal, scribed to the wall, and secured to the wall, not the floor; this permits of natural movement in the floor-boards without displacement of the skirting.

The provision of a full-size loading door to the exterior should be carefully borne in mind when preparing the design, and is most conveniently placed in a gable-end. If a gable does not conveniently present itself it will be necessary to form one, and frequently this treatment, actuated by necessity, adds considerable character to the whole structure.

Many tenants prefer to use their granary during a large part of the year as a drop floor, and to suit it for this use a manhole about 2 ft. 6 in. square should be trimmed in the floor against a wall near the loading door, and a cat ladder provided down to the fodder house. The greater part of the place may then be filled with hay or straw and the chaff-cutter stand near the external door and manhole.

V.—Cowhouses.

From time to time an endeavour has been made to put forward a fixed number of cubic feet of air space as the ideal amount to be provided for each animal. This is quite arbitrary and of little practical use, as the varying conditions in each case cannot be ignored. A far wiser plan is to provide a place which will just house the animals comfortably and allow of convenience in feeding, etc., and then scientifically ventilate it.

The following fixes the minimum width for a cowhouse :—

	Ft.	In.
Gangway	3	6
Gutter	1	6
Standing	6	0
Manger	2	0
Total	13	0

The Gangway.

The width is fixed at 3 ft. 6 in. because this is the narrowest path along which cows can comfortably pass, or in which a man can carry out his necessary duties. Further, if it is less, the rear wall will get badly splashed. The floor should have a fall of about 1 in. towards the gutter.

The Gutter.

Opinion varies greatly as to the width and section of this important feature, but when the matter is carefully looked into it will be found that three considerations govern its design :—(1) The cows must stand well above it; therefore a 6-in. step up is desirable. (2) It should be wide enough to permit of the full width of a hard broom passing along it; this requires the bottom to measure 12 in. across. (3) A second step so close to the first mentioned is not only dangerous to the animals, but prevents a shovel being conveniently used to remove the dung, so a slope is the only alternative. A sketch in our illustration shows the channel thus evolved.

Standing.

The length from front to back should be such that the heels of an animal when standing are just safely inside the edge of the step above the channel. When the animal lies down its hindquarters must not extend partially over the gutter, and to guard against this the manger must either be made sufficiently low to allow the cow's head to project over it or rest on it, which is the better plan; or the length of the standing must be increased, which latter, however, defeats the principle first laid down.

In rare cases the length of the standing, with a low manger, may require to be increased to 6 ft. 6 in. The floor should fall 2 in. from the front of the manger to the gutter.

The Manger.

To this is allotted a width of 2 ft., just sufficient to take glazed half-pipes 2 in. thick and 18 in internal diameter set in cement concrete.

Glazed half-pipe mangers are, without doubt, clean, capacious, and cheap, but unless divisions are provided, the cattle are sure to push a proportion of their food into the next stall, perhaps empty, and out of their own reach.

Perhaps the most satisfactory method is to get the half-pipes in 3-ft. lengths and use one for each standing, setting it in concrete, finished with rounded kerbs at the two edges, and forming divisions or ends of the same material.

Glazedware troughs, 36 in. long, 18 in. wide, and 12 in. deep outside dimensions may be substituted with advantage, but will generally found to be more costly.

The front edge of the manger should be not more than 15 in. above the adjacent floor line, so as to allow of the animal's head resting on it when in a recumbent position. On the argument of greater comfort whilst feeding, some authorities recommend a height of 2 ft. or 2 ft. 3 in., but as this entails a wider standing (*vide ante*), and is open to question, it does not appear desirable.

Feeding Passage.

A feeding passage is a great advantage, particularly on the larger holdings; 3 ft. 6 in. is a convenient width, but 3 ft. will frequently suffice; the total width of the cowhouse is, then, 16 ft. 6 in. or 16 ft. respectively.

Width of Stalls.

This is the subject of much difference of opinion, but it is almost universally admitted that double ones possess most advantages.

The governing factors are that it shall be sufficient for a person to pass between the cows for milking or feeding purposes, yet insufficient to allow of one animal turning so as to dung where the other occupant is likely to lie; 6 ft. 6 in. may be taken as a minimum and 8 ft. an extraordinary width between the stall partitions; a good average is to set out the partitions at 7-ft. centres.

Floor and Fittings.

The floor is well made of cement concrete, floated to the falls mentioned under "gangway" and "standings," and having ¾-in. V grooves diagonally at 4½-in. centres.

For a width of 3 ft. in front of the mangers it is recommended that a sinking 3 in. deep be formed and filled with chalk well consolidated by ramming. It is important to note that cement concrete is highly desirable under this chalk to prevent it absorbing ground damp.

Apart from mangers, which have been described, the fittings consist of stall partitions and hayracks.

Stall Partitions.

Notwithstanding the many desirable qualities possessed by stone, concrete, and iron for this purpose, it is impossible to recommend anything but red deal for the class of buildings under consideration. They require two 4-in. by 4-in. sound posts, secured 18 in. below the floor line, in cement concrete; to these two 4-in. by 2-in. rails should be morticed and pinned, the underside of the lower being 3 in. above the surface of the floor, and the upper side of the higher 3 ft. 9 in. above the floor at the heel post, and 4 ft. 3 in. at the manger front. Both sides are covered with 1-in. red deal boards in narrow widths (to prevent excessive warping), with edges shot: the ends of these boards being finished flush top of the upper rail and bottom of the lower rail respectively, thus preventing the ingress of vermin.

If the head post is not required to support the hayrack, the partition need not extend beyond the front edge of the manger.

In length, 4 ft. 6 in. from the manger to the outside of the heel post is found satisfactory.

Hayracks.

Hardwood need not be used for the hayracks of cowhouses, red deal, when clean and sound, serving well.

The simplest form consists of two 4-in. by 3-in. rails, 2 ft. apart, with 1½-in. square bars fixed diagonally at 6-in. centres, the bottom rail fixed close against the wall over the manger, and the whole leaning forward, so as to bring the top rail some 18 in. clear of the wall.

Where a feeding passage is provided, a different treatment is necessary. The head posts of the stall partitions carry two back rails, 4 in. by 2 in. on edge at the top and 5 in. by 3 in. at the bottom; the front rail is 4 in. by 3 in., the bars similar to those of the first type, and the back formed of vertical ¾-in. tongued and grooved matchboarding sunk into rebates in the back rails. (See illustration on inset plate.)

Three feet six inches from the floor line to the underside of the bottom rail will be found a convenient height.

Cow Ties.

If made of ¾-in. round iron, as illustration, fixed with ½-in. bolts right through the head posts of the divisions (two bolts answering for two ties), or through the side walls, answer well. There should be 2 ft. of straight bar commencing 18 in. above the floor; the tying chain merely passes round, the animal has perfect comfort, and cannot readily get hung up, and there is nothing to get out of order.

Doorways.

It is important that there should be a doorway opening directly to the exterior, so that the animals enter and leave without passing through other buildings or a fold yard.

Doorways through which cows pass should be 3 ft. 6 in. wide in the clear, and the doors made in upper and lower halves.

VI.—Stable.

A width of 16 ft. serves well for a smallholder's stable, and seems to divide up best as follows :—Gangway, 5 ft.; channel, 9 in.; standing, 8 ft. 6 in.; manger, 2 ft.

Where expense is no object a width of 18 ft has, without doubt, advantages, but they are insufficient to warrant this size in the type of buildings under consideration.

The proper place for the corn-bin is in the adjoining fodder-house, and the provision of a few wooden pegs in the same place will overcome any natural habit of the tenant's to keeping his harness in the steaming stable.

Horses, like cows, should enter their home directly from the outside, it being a grave disadvantage for them to have to pass through the fold yard. The doors for their use should be 4 ft. wide in the clear.

Mangers.

In place of the obsolete and insanitary wooden manger and overhead hayrack, from the latter of which a tired animal has to feed in a most unnatural position, are now recommended a glazedware half-pipe 3 ft. long and 18 in. diameter, set in cement concrete (which also forms the ends) on brick piers having bull-nosed quoins, and at the side of this, to fill up the remainder of the width of the stall, a hay manger.

This hay manger consists of a bottom and front of 1¼-in. deal tongued and grooved boards, spiked to 3-in. by 2-in. deal fillets, which in turn are plugged to the piers supporting the stoneware mangers or planted on the stall divisions, as the case may be.

The front edge of the bottom should be 3 in., and the back edge where it abuts on the wall 10 in., above the floor. The front boarding should finish 2 in. clear above the bottom.

It will readily be seen that this arrangement permits of the manger itself and the floor under being thoroughly cleaned.

As a finish to both the stoneware and the hay mangers, a chin rail out of 4 in. by 3 in. elm is fixed along the top front edge, being screwed to the middle rails of the stall divisions and the extremities cut and pinned into the side walls.

A rebate 2 in. by ½ in is formed on the back under-edge of this chin rail, and so securely grips the front of the stoneware manger, and satisfactorily receives the boarded front of the hay manger.

The height from the floor to the top of the chin rail should be 3 ft. 3 in.

In the centre of the width of each stall it is necessary to provide, as a fastening for each animal, a 3-in. wrought-iron ring, bolted right through the chin rail with a countersunk nut on the back.

The arrangement above outlined for feeding arrangements will, in practice, be found as economical as any other.

Stall Partitions.

Nine feet six inches long, 6 ft. 6 in. high at the head, and 5 ft. at the heel post will be found convenient. The cheapest form of heel post is of pitch-pine 5 in. by 5 in. and 7 ft. long, the portion below the floor being surrounded by cement concrete to hold it firm and prevent it rotting. To this post are housed three 4-in. by 2-in. deal rails, the lowest kept 3 in. clear above the floor, their other extremities being cut and pinned into the wall with slate and cement. Both sides are covered with 1½-in. red deal boards, the edges of which are shot square, so as to fit tight; tongued and grooved boards must not be used, owing to the difficulty of replacing a damaged one. The ends of the boards should be cut off flush with the top of the top rail and underside of the bottom rail respectively.

Floor.

For the floor 6 in. of cement concrete serves well; but for a width of 3 ft. in the centre of each stall, extending from the manger in the front to the channel in the rear, it is advisable to lay blue Staffordshire or equally hard panelled paving bricks.

The portion of the floor allocated to the standings may fall about 2 in. in its width towards the channel, and the gangway 1 in. The channel itself is of the open type, segmental in section, and a fall of 1 in. in 10 ft. towards the outlet is sufficient.

VII.—Boxes, Calf Pens, and Piggeries.

Loose Boxes.

The inclusion of a loose box in his buildings is of vital importance to the small farmer, for the purposes to which he puts it are legion. He uses it for an "in foal" mare, for a sick animal of any sort, for young stock, for a few extra pigs, etc.

A size suiting all these purposes well is 12 ft. by 10 ft., with a 22-in. glazedware corner manger at "horse" height (3 ft. 3 in.) and a cast-iron corner hayrack over it.

A floor of cement concrete, as previously described, well grooved, and discharging by means of an open channel to the fold yard, serves well.

Should two boxes be provided, one may be slightly larger and the other slightly smaller than 12 ft. by 10 ft.; but any manger or rack provided in the smaller one should be at a convenient height for stock, not horses, say 2 ft.

Calf Pens.

A building measuring 9 ft. by 12 ft. inside serves well, and should preferably adjoin, but have no direct communication with, the cowhouse.

Manor-Street Dwellings, Chelsea.

Messrs. Wills & Anderson, Architects.

The doorway, similar to that of the cowhouse, fits in one corner, and the interior is divided into two pens—one about 4 ft. by 4 ft. 6 in., for feeding a single calf for the butcher, and the other 7 ft. 6 in. by 9 ft., for several growing animals, according to size.

A very serviceable type of partition is made with 4-in. by 4-in. posts, to carry doors of the ledged, braced, and boarded type, 2 ft. 3 in. wide, two 4-in. by 2-in. rails, and 1-in. matchboarding. The underside of the boarding is kept 3 in. clear of the floor and the top finished 4 ft. above it.

A portable feeding trough will be provided by the tenant for the smaller pen, but across the end of the larger a manger of glazed half-pipes 15 in. diameter, set in cement concrete, may be provided. A suitable height above the floor for the top edge is 2 ft., and, just above, a wall hayrack similar to that described under "Cowhouses," with all dimensions reduced by one-quarter, is very necessary.

The floor should be laid to fall towards the doorway and there discharge across the causeway into the yards by means of a shallow channel. No better material can be suggested than cement concrete, suitably grooved in two directions.

The calfhouse must be sufficiently, but not excessively, ventilated; one inlet on either side and one open ridge tile serving well.

An unusually noxious odour is associated with calves, and this must be borne in mind if the dwelling-house of the smallholder is to be, as is usually the case, in close proximity to the buildings.

For the smaller holdings a calf pen may be constructed in the cowhouse.

Piggeries.

Whether the holding be of 80 acres or 10 acres, two moderate-sized pig pens are advocated, for in the former case they will, even on potato farms, be found sufficient, while in the latter one only makes no provision for the separation of a breeding sow from store pigs.

With the provision of a fold yard for exercise purposes, the consensus of opinion is in favour of open-fronted piggeries of the "box" type; and this kind is clearly indicated in our inset illustration.

The height of the door and front wall must be not less than 4 ft., and 6 ft. is sufficient to the soffit of the arch or lintel spanning the front. The width of door opening may be 2 ft. 3 in., and the door itself can be hung direct to hook stones, so as to deprive the occupants of the pastime of chewing wooden studs. The bottom of the door is best kept 3 in. clear above the step, so that the boards are not rotted by the urine.

Several reasons prevent the adoption of the feeding-passage system in small sets of farm buildings, the prime one being that the boiling-house and food stores cannot be directly connected with all buildings, and the stable and cowhouse call for preference.

Many authorities object to a concrete floor for piggeries, and such a one should certainly be thoroughly grooved to prevent slipping. The inherent coldness of such a floor may be overcome by laying over half its area a mat formed of 2-in. by 1-in. battens fixed ¾ in. apart on 3-in. by 2-in. bearers hollowed on their underside so as not to prevent liquids getting away.

Pigs are frequently looked upon with disgust as dirty animals, and if they are kept in a place which is rarely swept out, where perhaps the floor falls towards the centre so as to collect the urine, one can expect little else.

(To be concluded.)

MANOR-STREET DWELLINGS, CHELSEA.

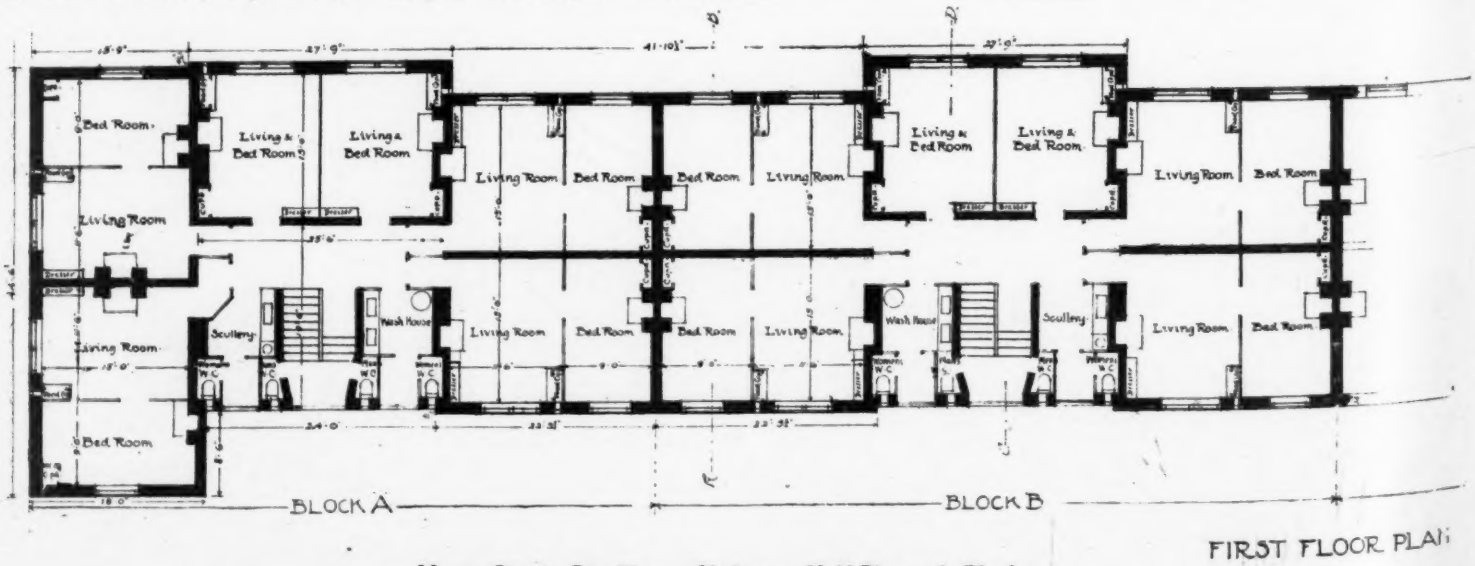
THESE buildings were erected by the Borough Council of Chelsea on a site given by the late Earl Cadogan on condition that the tenements are let at rents suitable for those whose wages only amount to 25s. a week.

EXHIBITION OF WAR PICTURES.

A special Committee of the Court of Common Council was held at the Guildhall on the 13th inst., to consider a proposal to hold an exhibition of war pictures. The meeting was held in private. Mr. S. H. M. Killik, Chairman of the Library Committee, moved:—

"That it be recommended to the Court of Common Council that a Loan Exhibition be held in the Art Gallery of war pictures by artists of the Allied nations—France, Russia, and Belgium—together with selected examples by British painters, at a cost not exceeding £350, and that it be referred to the Library Committee to take the necessary steps accordingly; and, further, that the Committee be authorised to make a charge for admission of 1s. per head on not more than one day a week."

The Committee agreed. The French Government, it is explained, have agreed to lend forty of the finest works by French military painters from the Louvre, the Luxembourg, and Versailles.



Manor-Street Dwellings, Chelsea: Half-Plan of Block.

Messrs. Wills & Anderson, Architects.

THE BUILDING TRADE.

COMING NEEDS:
A HINT TO INVESTORS AND MAKERS OF LABOUR-SAVING MACHINERY.

It seems certain that the coming need in the building trade will be for labour-saving machinery of every kind. There had already arisen a shortage of skilled and semi-skilled labour when the war began, and the shortage has been increased by the demands connected with the war.

Just when there will be a revival of business in building is a difficult problem, but need not be considered in this connection. It is well known that there is a general shortage of houses, that there has been but little building done in recent years, that many schemes for town planning and housing are in preparation by local authorities and only await the moment when loan capital shall become available to be started, and that there will be a huge demand for building work in connection with the restoration of the towns and villages, etc., which have been destroyed by war operations.

So that sooner or later it is apparent that a large demand for building works of every kind is inevitable.

Labour forms roughly half of the cost of building; the demand for labour will be unprecedented and will come on a market already short-handed; what will happen? There will be a large advance in wages no doubt, and the cost of materials will rise as well, so that buildings will be much more costly to erect than now, and the main direction in which anything effective can be done to counteract these advances would appear to be in the increased use of machinery and labour-saving appliances of every kind.

The scope of application is very wide; buildings are of all sizes, and the need for cheapness is greatest in those which are smallest, so that labour-saving appliances of all sizes and descriptions may find a place.

Surely this is a unique opportunity for the inventor and manufacturer of such appliances which ought not to be missed. There would appear to be enough to do in the way of study, preparation, and education of the building trade in their use and appreciation to justify co-operative action on the part of manufacturers of machinery and plant used in this trade.

The use of labour-saving devices has spread but slowly in this trade, and there are thousands of builders' shops which are inadequately equipped with such machines and tools as are already available.

Doubtless the comparative cheapness of labour, especially that which is semi-skilled, combined with the scattered nature of a builder's work, is responsible for that state of things. But a change is coming; wages had advanced about 15 per cent. prior to the war and further increases may be expected for the reasons already given, so that employers will have to consider how economies can be made to compensate for dear labour and materials.

Co-operative action might be taken in two directions, first by the manufacturers organising an exhibition or show of all kinds of labour-saving machinery and tools, somewhat after the lines of the motor shows, with ample provision for demonstrations and lectures on the capacities of machines, on the best methods of utilising them, on the cheapest methods of grouping and driving them, on the relative advantages of various sources of power and so on. Secondly, by the building trade organisations considering the various kinds of work and its cost and examining the question of reducing cost from the point of view of eliminating hand labour as far as possible.

It is desirable that action should be taken now rather than left until it is forced upon the manufacturer and the builder by stress of circumstances.

KEY TO THE LONDON TELEPHONE DIRECTORY.

Messrs. Stone & Colquhoun, 92, Victoria-street, S.W., are publishers of a key to the London Telephone Directory for ascertaining the name and address of subscribers when the number and exchange only are known. The price is 2s. net.

THE MASTER BUILDERS' ASSOCIATION OF NEW SOUTH WALES.

We take the following from the annual Report:—

State of the Trade.

During the first half of the year, and in fact right up to the outbreak of war in August, the trade was exceedingly busy, and, as far as can be judged, would have totally eclipsed all previous records; but the declaration of war by the principal countries of Europe during that month caused a natural but perhaps excessive caution on the part of certain investors, financial institutions and speculators, with the result that there was a considerable contraction in building operations, which, it is earnestly hoped, will prove to be only temporary. Despite this, however, the total output for the year shows a gratifying increase over that of previous years, reaching a total of £6,775,548 as the capital cost of works completed in the metropolitan area, including works carried out by Government Departments under the day labour system.

The scarcity of skilled labour prior to the war caused a tendency to high prices in building construction, and after the war is over there will probably be a rush to build, with a consequent recurrence of the scarcity of labour and hardening of prices again.

State of the Labour Market.

During the first seven months of the year the shortage of labour, which had caused considerable inconvenience and delay to building operations during the past few years, was still very acute; but the cessation of new works considerably eased the situation for those who had contracts in hand, although in some trades the easement was not very noticeable, owing to a large number of men being employed in fitting out transport and hospital ships for our Expeditionary Forces.

The fact that the shortage of labour was still felt right up to the outbreak of hostilities in Europe is conclusive proof of the correctness of the attitude of the Association during the past few years in endeavouring to encourage the immigration of skilled artisans. The natural increase in the population, taken in conjunction with the difficulties concerning the apprenticeship system, was entirely inadequate to cope with such an increase in the building trade as has occurred.

The work of the Employers' Industrial Labour Office, which was started by this Association and supported by the Employers' Federation, Chamber of Manufacturers, and Timber Merchants' Association, has been actively continued during the past twelve months, and the office has done a great amount of good in bringing employers and employees together.

Day Labour and State Socialism.

The State Labour Government has continued its policy of day labour for Government works, and has extended its ideal of State socialism into the domains of other trades and businesses formerly left to private enterprise. Little comment is necessary from this Association, as the Auditor-General's report discloses a state of affairs which might have been anticipated, the general result being the direct loss to the country of a considerable amount of money. In reply to questions asked in the House, the Government admitted that works in the course of construction were not charged with the interest on the borrowed capital for the period during the course of construction, this interest being charged to general revenue and expenditure accounts. Consequently the Auditor-General's report does not disclose the full amount of losses of these undertakings, but it does disclose in many instances that far too little is charged for depreciation and other items that would have to be fully charged in a properly conducted business undertaking.

The building construction branch appears, according to the Auditor-General's report, to show a profit but when it is remembered that in many cases the branch carries out work at prices higher than those for which builders have tendered to carry out the same work, and that in many cases also works are carried out without calling tenders, without any competition, and without any independent supervision, and that in those cases the actual cost is charged plus 20 per cent. for office expenses, it can be readily seen the ease with which an apparent profit is shown, but it is impossible for the reports to show how much more these works have cost under the day labour system than if done under the contract system. The following figures relating to State industrial enterprises are extracted from the Auditor-General's report:—

State Enterprises Worked at a Loss.

	£ s. d.	£ s. d.
1. The State Timber Yards and Workshops at Uhr's Point, a nett loss of	4724 12 4	
2. The State Joinery Works at Rozelle, a nett trading loss of ..... (Exclusive of a loss of £12,652 by fire.) This is the enterprise that the Minister for Works boldly asserted was making a clear profit of £6000 a year, but the profit to June, 1913, is given as £3733 5s. 11d. on a capitalised value of £71,138 12s. 8d. (5 per cent.)	7997 9 4	
3. The State Bakery shows a nett loss of	347 11 9	
4. The State Lime Works at Taree and Botany show a nett loss on trading of	4099 4 7	
Total loss on above enterprises		17,168 18 0

State Enterprises Worked at a Profit.

1. Dacey Garden Suburb....	1309 2 7		
2. State Brickworks, Homebush	2639 1 6		
3. State Metal Quarries:— Kiama .... 5715 17 0 Port Kembla 1590 12 7	7306 9 7		
4. State Clothing Factory..	15 18 5		
5. State Monier Pipe Works	2538 8 9		
6. Maroubra Quarries	320 4 7		
Total profit		14,129 5 5	
Net loss (in addition to loss by fire)		£3,039 12 7	

In spite of the small amounts allowed for depreciation and the fact that interest on borrowed capital appears to be not properly charged, there is undoubtedly a considerable loss on the whole outlay to the taxpayers, and we can only assume that if the accounts had been kept in a thorough businesslike manner the losses shown would have been far greater.

A New Method of Construction.

Shortly after the outbreak of war the Public Works Department inaugurated a new era in building construction by erecting a series of calico huts on the outskirts of Kensington for the use of those unemployed through the war. The idea to provide the unemployed with cheap shelter (the rental charged being 1s. per week) was a meritorious one, and the originator deserves every credit for it, but the scheme as carried out in detail deserved and received some very harsh criticism at the hands of the daily and weekly Press. Since then certain improvements have been made, the Department thus admitting that some at least of the criticism was deserved, but even at present there is much to be desired in the scheme.

Conditions of Contract and P.C. Sums.

Several conferences were held between representatives of the Institute of Architects and this Association in considering these matters, and, though the conferences were postponed on account of a federal conference of architects to be held in Sydney to consider, among other things, the advisability of uniform conditions of contract throughout Australia, a large amount of useful work was done and agreement was reached on several points, notably in connection with the affirmation of the principle that the builder was entitled to a profit or discount on P.C. sums.

The Committee therefore feels justified in expressing the opinion that on the resumption of the conferences at a very early date satisfactory settlement will be arrived at and a full agreement with the architects reached.

Industrial Arbitration.

The first half of the year was again very fully occupied with Wages Board and arbitration matters, but since the commencement of the war matters have been a little more quiet, and fewer matters brought before the Boards and Courts.

Slaters' Strike.

The award of the Slaters' Board which was issued in March, 1914, also granted an increase of 1s. per day to the men, but the day after the award was gazetted the men went on strike. This was one of the most flagrant breaches of the Industrial Law that has ever come under the notice of this Association, and was the second strike in the slaters' trade within the past three years. The struggle continued for close on three months, and the employers, assisted by this Association and suppliers of materials, with the co-operation in some instances of the architects, defeated the strikers, and eventually they returned to work at award rates.

Conciliation.

The efforts put forth by the Association during the previous twelve months to arrive at agreements by methods of conciliation have been satisfactory, and in those cases in which an agreement was arrived at awards have since been made, embodying practically the whole of the terms of the agreements. In each case since the agreements were made minor difficulties that have arisen have been discussed amicably by Conciliation Committees with different trades, and work has proceeded satisfactorily under these agreements. The most satisfactory feature of these Conciliation Committees has been that when employers and employees have been brought face to face to discuss matters within their common knowledge, reasonable agreements as to working conditions have been arrived at without the delays and expenses usually accompanying Wages Board hearings.

Apprenticeship.

Whilst there has been a good deal of talk about revising the legislation dealing with apprentices, nothing, unfortunately, has been done so far. The Department of Public Instruction is now controlling the technical education of apprentices, and for that purpose is keeping records of all apprentices in all trades. It would seem to be a considerable saving in time and money to all concerned if that Department were also to control all other matters relating to apprentices.

With regard to the increases granted by Wages Boards to apprentices, and the doubt that existed this time last year as to whether boys indentured under an old award were entitled to have their wages raised under a new award, this question has been settled in two trades in two different ways. In the carpenters' trade it was settled by reducing the wages back to the amount prescribed under the old award. In the plumbing trade, the Court held that the terms of the award did not apply to boys indentured under the previous award.

Patriotic Fund.

At the August meeting of the Association it was decided to raise a fund for the relief of distress caused by the war. Several associations connected with the building trade were invited to co-operate, with the result that over £11,200 has been subscribed up to date, of which £10,100 has been allocated to different funds, and there is still about £1,100 in hand.

Meetings.

A total of ninety-six meetings were held for the twelve months, in addition to the conference of the Federated Associations, which lasted three days. These figures are exclusive of numerous sittings of Arbitration Courts, Wages Boards, etc., attended by members of the Committee at different times, either as members of Boards or for the purpose of giving evidence, and which were also attended by the Secretary as advocate for the Association.

PROPOSED NEW BUILDINGS AND OTHER WORKS.*

IN these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works, at the time of publication, have been actually commenced. Abbreviations:—T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; L.G.B. for Local Government Board; B.G. for Board of Guardians; L.C.C. for London County Council; B.C. for Borough Council; and P.C. for Parish Council.

ABERDEEN.—The following plans of new buildings to be erected on ground belonging to the Aberdeen Harbour Board have been approved:—Premises at Commercial-road for the T.C., per the Assistant Burgh Surveyor; additions to fish-curing premises at Old Ford-road and Palmerston-road for Mr. John T. Kindness, per Mr. William E. Gauld, architect; alterations on buildings at Poynernook-road for refrigerating chambers for Messrs. Allan & Dey, per Messrs. Brown & Watt, architects; alterations and additions to premises at Albert Quay, for Mr. Thomas Davidson, fishcurer, per Mr. George B. Mitchell, architect; rebuilding of fishcuring shed at Old Ford-road and Palmerston-road for Mr. Thomas Davidson and Messrs. Allan & Dey, at premises occupied by Mr. Donald Sinclair, per Mr. William E. Gauld, architect.

Aberystwyth.—Messrs. E. E. Jenkins & David Watkins have the contract for extensive alterations at the Queen's Hotel.

Aldershot.—Plans passed for alterations to motor works for Messrs. J. E. Lawes, Ltd.

Arklow.—The U.D.C. have obtained a loan of £1,400 for the erection of additional houses under the Working Classes Acts.

Audley.—The U.D.C. have instructed their Engineer to prepare plans for sewerage works in the Butt-lane area, and will apply to the L.G.B. for a loan of £1,200 for the purpose.

Bacup.—Plans passed:—Alterations to New Inn, Rochdale-road, for Messrs. D. Thwaites & Co., Ltd.; Billiard Hall, Burnley-road, for Messrs. H. Cowgill & Sons; alterations to No. 39, Rockcliffe-lane, for Mr. R. T. Hardman.

Bangor.—With regard to the scheme for erecting twenty-four workmen's houses in Sackville-road, the T.C. have resolved that an application be made to the L.G.B. for sanction to borrow the sum required, and also for a promised grant of 10 per cent. towards the scheme.

Barrow.—Two houses Ancaster-street, for Mr. A. While; two houses, Ancaster-street, for Messrs. J. H. Lines & Co.; two villas in Park-drive for Messrs. Marsh & Butler.

Bath.—Proposals to spend £3,600 on improvements of the New Royal Baths and £1,300 on the Grand Pump Room have been adopted by the T.C.

Bedford.—Ten cottages, St. Paul's-road, for Mr. T. Dickens.

Bolton.—Two houses and shops in Ainsworth-lane for Messrs. Leigh Bros., Ltd.; two houses in Green-lane for Mr. T. Woods.

Brampton.—The late Rev. A. F. Watt has left £400 for the purchase of a site for a church at Lower Brampton, and Mr. G. M. May has bequeathed £600 to install a peal of bells in St. Thomas's Church.

Bristol.—Approval has been given by the L.G.B. to the plans of the T.C. for additional isolation accommodation at Novers-hill, and have intimated that tenders may be obtained for the work. The Docks Committee have approved of a scheme for a new locomotive running shed, and the Engineer has been instructed to prepare the specification.

Cardiff.—H.M. Office of Works has accepted the tender of Messrs. J. Allen, Ltd., Cathays, Cardiff, for alterations to the head post-office.

Chatham.—Plans passed:—Motor garage at rear of Fountain Inn, High-street, for Messrs. Style & Winch, Ltd.; bungalow, Lordswood-lane, for Mrs. Williams; house, Landsdowne-road, for Mr. E. Graham.

Chorley.—Plans for three pairs of semi-detached houses in Park-road, Coppull, for the Coppull Building Estates, Ltd., are before the R.D.C.

Clacton.—A L.G.B. enquiry has been held into the application of the U.D.C. to borrow £9,150 for works of sea defence and £1,300 for electricity purposes.

Coedyglyn.—Plans have been passed by the Chirk R.D.C. for alterations to Dr. Lloyd's surgery and waiting-rooms at Coedyglyn.

Egremont.—Workshop at Scalegill for Mr. John Dalton.

Ely.—The tender of Messrs. Parren & Son, Earith, Hunts, has been accepted by H.M. Office of Works for the post-office extension.

Enniskillen.—The U.D.C. have adopted a report of the Housing Committee with reference to the erection of thirty-two working-class houses.

Fleetwood.—Plans have been approved for two houses in Abercrombie-road for Mr. Richard Roskell.

Forden.—The R.D.C. has under consideration an application from the Welsh Housing Pioneer Association, through its architect, Mr. Hancocks, for a water supply to a garden village in connection with the development of the Criggion granite quarries. It was proposed to erect forty-seven houses with baths at rents of 4s. to 4s. 6d. a week.

Frodsham.—The Governors of the National Children's Home contemplate the erection of a school near Frodsham for the accommodation of 200 children.

Gailes.—The Irvine and District Water Board propose improving the water supply at an estimated cost of £1,700.

Glasgow.—Linings granted by Dean of Guild Court:—Tharsis Sulphur and Copper Company, Ltd., 136, West George-street, to add to their works in Garngadhill; Messrs. Blair, Campbell, & M'Lean, Ltd., engineers, Govan, to erect buildings in Woodville-street and Albion-street; Messrs. Richard and Alexander Bogie, masons and builders, to erect buildings in St. George's-road; Messrs. Birrell, Ltd., to add to their chocolate factory at Anniesland; Messrs. Sandeman Bros., Ruchill Oilworks, to erect stores and chemical manufacturing works in Bilsland-drive and Murano-street; the Corporation of Glasgow, to erect lavatories in Bellahouston Park and Queen's Park; Mr. Walter M. Neilson, of Queenshill, Barcaple, Ringford, Kirkcudbrightshire, to form a private street, 50 ft. in breadth, from Wellfield-street to Edgefauld-road, Springburn; Messrs. Barr & Stroud, Ltd., engineers, to alter and add to their works at Caxton-street, Anniesland.

Grays.—The L.G.B. have informed the Orsett Joint Hospital Board that they will sanction the whole or part of the loans of £3,784 and £247 for the new administration block and enlargement. Plans of the Co-operative Society's premises are before the U.D.C.

Great Crosby.—Plans passed:—Four houses on the south side of Morningside for Mr. C. Townsend; dining-room, etc., at the mill off End-butt-lane for Messrs. B. Kershaw & Co.

Greenock.—Two villas in Eldon-street for Mr. W. H. Kirkland.

Hadleigh.—A proposal is under consideration for draining the parish of Hadleigh into the Southend Corporation sewers.

Hanwell.—Extension of the factory of the Commercial and Maritime Engine Company, Ltd., in Nightingale-road.

Harrogate.—Plans passed:—Six pairs of semi-detached villas, Lynton-gardens, for Mr. J. H. Owston; detached house at Pannel Ash-road for Mr. J. A Mackay; alterations to residence, Kent-road, for Mr. T. Wray; assembly hall, Panel Ash-road, for Trustees of Primitive Methodists' Orphanage; conversion of premises into club for New Park Working Men's Club.

Heaton.—For alterations and additions to the Labour Exchange, the tender of Mr. W. B. Cooper, Sunderland, has been accepted by H.M. Office of Works.

Hexham.—Plans passed for doctor's house and three cottages at the Sanatorium, near Barrasford, for the Newcastle and Northumberland Sanatorium Committee; and two houses on sites near Bridge End Dyeworks, Hexham, for Mr. A. Taylor, Dyeworks Cottage, Hexham.

Horncastle.—Plans for a house at West Ashby for Mr. Charles Capps have been passed by the R.D.C.

Hove.—House in Wilbury-crescent for Mr. T. W. Bassett; two maisonettes in Palmeira-avenue for Mr. J Butler.

Ince.—The U.D.C. intend urging the L.G.B. to sanction them going on with their sewage scheme.

Lancaster.—Plan approved for a detached house at Silverdale for Mr. Joshua Smith.

Linthwaite.—The U.D.C. have approved plans of additions to the Central Stores at Market-street for the Milnsbridge Perseverance Co-operative Society, Ltd., and a conversion of property at Hoylehouse into a house, shop, and offices for the Council.

London.—Messrs Higgs & Hill's tender has been accepted by H.M. Office of Works for new roofs, etc., to the Sheepshanks Gallery of the Victoria and Albert Museum. The Metropolitan Police Commissioners have accepted the tender of Mr. J. W. Jerram, Crown Works, Plaistow, for the erection of the Bethnal Green Police-station, and that of Messrs. Newby Bros., Southgate, for alterations at Limehouse Police-station.

Loughborough.—The T.C. have approved of the Engineer's scheme for the supply of water to the Knightthorpe-road district. Plans passed:—Four houses, York-road for Mr. A. Lacey; motor garage, Greenclose-lane and the Rushes, for Mr. T. Gillott.

Meenkelly.—The Commissioners of Public Works for Ireland have accepted the tender of Messrs. P. Holly & Son, Tarbert, Co. Kerry, for the erection of a national school.

Menai Bridge.—The U.D.C. are applying for sanction to appropriate a site at New-street for the erection of workmen's cottages.

Nelson.—Fourteen houses in Hendon-road for Messrs. Hargreaves & Co.

Newcastle-on-Tyne.—The scheme of the Housing Committee for erecting 688 dwellings of varying types on the Walker Estate was discussed at a recent meeting of the T.C., and will be further considered at the next meeting.

New Romney.—Plans for a new office and garage for Mr. W. E. Ellis have been passed.

Northampton.—House in Ardington-road for Mr. R. G. Lucas; rebuilding of "Spade and Plough," Houghton-road, for Messrs. P. Phippe & Co., Ltd.; three houses, Thursby-road, for Mr. W. C. Throssell; six houses, Southampton-road, for Messrs. H. R. & W. Cleaver; two houses in Ardington-road for Mr. S. F. Middleton; rebuilding of "Talbot Inn," Wellington-street, for Messrs. P. Phippe & Co., Ltd.; house in Balmoral-road for Mr. W. Heap; nineteen houses for the London and North-Western Railway Company; house in Aden-road for Mr. T. Wilson; eighteen houses in Norton and Yelvertoft-road for Mr. T. Wilson.

Nottingham.—The T.C. have determined to apply to the L.G.B. for leave to borrow £40,000 for a rehousing scheme.

Nuneaton.—Messrs. L Tansey & Co., needle manufacturers, propose building a new factory from the plans of Messrs. Heaton & Walker.

* See also our list of Competitions, Contracts, etc., on page 392.

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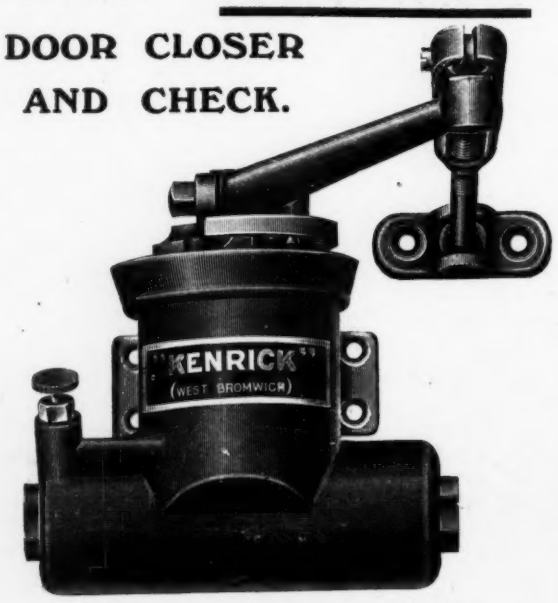

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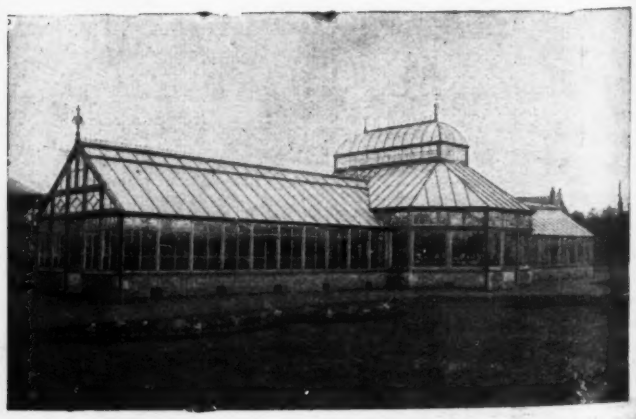

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Oswestry.—The T.C. have passed plans for a building on land of the Cambrian Railway Company for the Anglo-American Oil Company.

Paisley.—It is proposed to purchase ground at the Old Abbey Manse for the erection of a new school.

Pontefract.—House in Carleton-road for Miss Johnson.

Poole.—A L.G.B. inquiry has been held into the application of the T.C. for sanction to borrow £500 in connection with the waterworks undertaking.

Rhymney.—A site at Llechryd has been selected for a joint isolation hospital for the Rhymney and Tredegar Councils.

Rotherham.—A plan of 199 houses at Thurcroft for the Rother Vale Collieries, Ltd., has been approved by the R.D.C.

Scarborough.—The Scarborough authorities have adopted a comprehensive scheme of town planning and housing. The areas affected are in the Central and the East Wards, the oldest and most congested districts in the old town, and the scheme embraces the construction of a new thoroughfare from the Newborough-street end of North-street (near the site of the Old Bar) to a point on the Sandside near the entrance to the Marine Drive and Promenade, the length of the new street to be approximately one mile. The scheme will be carried out in sections, the work thus being spread over a number of years.

Slough.—Plans for a house in Langley-road for Mr. Cridlan have been passed.

Southend.—It is intended to proceed with the erection of St. Erkenwald's vicarage at a cost of £1,880.

Sowerby Bridge.—Plans passed by U.D.C.:—By Mr. R. Edgar Horsfall, architect, Halifax, plans were passed for the proposed electric cinematograph theatre in Wharf-street, Sowerby Bridge; for Messrs. Summerskill Bros., extension at Holme Ironworks; and for Mr. Arthur Dyson, house in Industrial-road.

Spalding.—The B.G. have accepted the plans of Mr. W. Bond, architect, of Grantham, for the proposed children's home.

Stranraer.—The T.C. have decided to repair the roof of the old castle and repoint the old bell tower.

Stratford-on-Avon.—House at Kineton for Lord Willoughby de Broke.

Swindon.—The Hospital Board has approved of the plans for the enlargement of the Isolation Hospital at Gorse-hill of Messrs. Bishop & Fisher, showing additional rooms on the ground and first floors in the administrative block, at an estimated cost of £2,200, exclusive of cooking apparatus, roadways, and fencing.

Tanfield.—Twenty-four houses in Joicey-terrace, Tanfield Lea, for Messrs. J. Joicey & Co.

Ulverston.—Three cottages in Chapel-street for Mr. W. Downham, and five cottages in Aldwych-terrace for Mr. R. Thompson.

Uxbridge.—Plans approved by R.D.C.:—For additions to Bell's United Asbestos Works, Harefield, and for additions to Crows Nest Farm, Harefield.

Wakefield.—Plans passed for repair shop at Horbury Junction for Messrs. C. Roberts & Co., Ltd.

Warwick.—The T.C. have decided to apply for a loan of £700 to connect Longbridge with the public water supply.

West Bromwich.—Mr. A. Hopkins, Thorpe-street, Birmingham, is the successful tenderer for additions to the Post-Office.

Wigan.—The Eagle Picturedrome Company has purchased the residence and grounds of Dr. Mitchell Roocroft, in King-street, with the intention of building a new hippodrome or picture-drome on the site.

Windsor.—Plans passed by T.C.:—Messrs. Hollis & Son, alterations to 59, St. Leonard's-road; Mr. Hills, conversion of the "Sun" Inn, Peascod-street, into two shops; Messrs. Darville & Sons, alterations at the rear of 92, Peascod-street.

Yarmouth.—Plans have been approved for a new factory on the South Denes for Messrs. Johnson & Sons.

GENERAL BUILDING NEWS.

BATHS, BALHAM, S.W.

A new swimming-bath has been opened recently in Elmfield-road, Balham, S.W. The architects, whose design was selected in competition, are Messrs. S. N. Cooke and W. H. Twist, Colmore-row, Birmingham. The general contractor was Mr. A. Morris Fenn, Thomas-street, Woolwich, and the engineering work has been carried out by Messrs. T. Bradford & Co., of Manchester. Arrangements are made for boarding over the bath in the winter months and for converting the building for other than aquatic entertainments.

TRADE NEWS.

Boyle's latest patent "air-pump" ventilators have been applied to Portsmouth Workhouse.

The Cherry Tree Machine Company, Ltd., laundry engineers, Blackburn, Eng., are supplying the new laundry machinery (including their latest type metal rotary washing machine with self-oiling bearings) to the Blackburn Union Workhouse.

The Howden Isolation Hospital is being supplied with Shorland's warm-air ventilating patent Manchester stoves with descending smoke flues, patent Manchester grates and ventilators, by Messrs. E. H. Shorland & Brother, Ltd., of Failsworth, Manchester.

RATES OF WAGES IN THE BUILDING TRADE.

THE following are the present rates of wages in the Building Trade in the principal towns of England and Wales. It must be understood that, while every endeavour is made to ensure accuracy, we cannot be responsible for errors that may occur:—

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Masons' Labourers.	Bricklayers' Labourers.	Plasterers' Labourers.
	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
Aberdare	9	—	9½	9½	—	9	8	6½	6½	6½
Accrington	10	9½	9½	9½	9	9	9½	6½	6½	6½
Altrincham	9½	10	10½	10	8½	10	9	6½	6½	6½
Ashton-under-Lyne	10½	10½	10	10½	9	10	9	6	6	7
Barnsley	9½	9½	9½	9½	9	9	8½	7	7	7
Barrow-in-Furness..	9½	10	9½	9½	9½	9½	9½	7	7	7
Barry	9½	9½	9½	10	—	9	8½	6½	6½	6½
Bath	8½	8½	8½	8	7½	8	7½	5½	5½	5½
Bedford	8	8	8	8½	8	9	6½	5	5	5½
Birkenhead	11	11	11	11½	11	11	9½	7	7	7
Birmingham	11	11	11	10½	9½	10½	9½	8	8	8
Bishop Auckland..	9	9	9	9	10	9	7½	6	6	6½
Blackburn	10	10½	10	9½	9½	10	9½	6½	7	7
Blackpool	10½	9½	9½	9½	8½	9	8½	6	6	6
Bolton	10	10½	10	10½	10	10	9½	6–7	6–7	6–7
Bournemouth	8½	8½	8½	8½	8½	8½	8	6	6	6
Bradford	10	10	9	9½	9½	10	8½	7	7	7
Bridgwater	6½	6½	6½	6½	6½	6½	6	4	4	4
Brighton	9	8½	8½	8½	—	8	7	6	6	6
Bristol	10½	10½	10½	10½	—	10½	9½	7½	7½	7½
Burnley	10	9½	9½	9½	8	9	9½	7	7	7
Burton-on-Trent	9	9	9	9	8½	9	8½	6½	6½	6½
Bury	10½	10½	10	9	9½	10	9	6	6	6
Cambridge	9½	9	9	9½	9½	9½	7½	6	6	6
Canterbury	8½	8	8	10	—	8½–9	6½	5	5	5
Cardiff	9½	9½	9½	9½	9½	9½	8½	7	7	7
Chatham	8	9	9	9	9	9	7½	6	6	6
Chelmsford	8	7½	8½	8½	—	7½	6½	5	5	6½
Cheltenham	8½	8½	8½	8½	—	8½	8	6	6	6
Chester	9½	10	9½	9½	9½	9½	8½	5½	6½–6½	5–5½
Chesterfield	9	9	9	8	9	8½	8½	5½	5½	5½
Colchester	8	8½	8½	8	8	9	6	5½	5½	5½
Coventry	10½	10½	10½	10½	9½	10½	8½	7½	7½	7½
Crewe	7	8	7½	9	8	8	7½	5	5½	6
Darlington	9½	9½	9½	10	10	9	8½	6½	6½	6½
Derby	9½	9½	9	9	9	9	8	6½	6½	7
Doncaster	9½	9½	9	9	9	9	8	6½	6½	7
Dudley	8½	8½	8½	8½	8½	8	7½	5½	5½	5½
Durham	9	9	9½	9	10	9	8½	6	6	6½
East Glamorgan and Monmouthshire Valleys	9½	9½	9½	9½	—	—	8½	6½	6½	6½
Exeter	8	8½	8	8½	7½	7½	7	5½	5½	5½
Folkestone	8½	8½	8½	9	8½	8½	7–7½	6½	6½	6½
Gloucester	8	8½	8½	8	8	8½	8	6	6	6
Grantham	8	8	7½	7½–8	7½–8	7	6½	5	5	5
Grays	—	10	10	—	—	9½	8½	7	7	7
Grimsby	9	9	9	9	9	8	8½	7	7	—
Great Yarmouth	8	8	8	—	8	8	6½	5	5	7
Halifax	10	10	9	8½	8½	9	8½	7	7	6½
Harrogate	9½	9½	9	9	8	9	8½	6½	6½	7½
Hartlepools	9	10	9½	10	10	10	9	7	7	6½
Hastings	8½	8	8	8½	8	8	7	6½	5½	5½
Hereford	8	8	7½	8½	8	7	6½	5½	5½	5½
Huddersfield	10	9½	9½	9½	10	9	8½	7	7	7
Hull	10½	10	10	10	10	10	8½	7½	7½	7½
Ipswich	8½	8½	8½	9	9	8½	7	5½	5½	5½
Lancaster	10	10	9	9	9	9	9	5½	6	6
Leamington Spa	9	9	9	8½	9	9	8	6	6	6½
Leeds	10	10	10	10	9	10	8½	7½	7½	7½
Leicester	9½	9½	10	10½	9½	9½	9	7	7	7½
Lincoln	9	8½	8½	9	8	8½	8	6	6	6
Liverpool	11	11	11	11	10½	11	9½	7	7	7
Llanelly	9½	9½	9½	8½	9	8½	8	5½	5½	5½
London	11½	11½	11½	11½	—	1s.	9	8	8	8
Loughborough	9	8½	8½	9	9	8½	7½	5½	5½	5½
Luton	9½	8½	8½	8½	9	8½	7½	5½	5½	5½
Maidstone	9	9	9	9	9	9	8	6	6	6
Manchester	10	10½	10½	11	10	10	9½	6½	6½	7½
Mansfield	8½	9	8½	8½	—	8½	8	6	6	—
Merthyr Tydfil	9½	9½	9½	9½	8½	9	8	6½	6½	6½
Middlesbrough	9	10	9½	10	10	10	8½	7	7	7
Newcastle-on-Tyne	10½	10½	10½	10½	10	10	9	7½	7½	7½
Newport, Mon.	9½	9½	9½	9½	8½	9½	8½	6½	6½	6½
Northampton	9	9	9	9	8½	9	8	6	6	6½
Norwich	8	8½	8½	8½	8	8½	7	5½	5½	5½
Nottingham	10	10	10	10½	9½	10	9	7½	7½	8
Oldham	10½	10½	10½	10	9	10	9½	7	7	7½
Oxford	9½	9	9	9	8	9	8	6½	6½	6½
Plymouth	9	9	9	9	9	9	8	6½	6½	6½
Pontypridd	9½	9	9	9½	9	9	8	6½	6½	6½
Portsmouth	9½	9½	9½	9½	—	8½	7½	7	7	7
Preston	10½	10½	10	9½	9½	10	9½	5½	6	6½
Reading	8½	9	9	9½	—	9	7½	6	6	6
Rochdale	10	10½	10	10	8½	9½	9	7	7	7½
Rochester	8	9	9	9	9	8½	7½	6	6	6
Rugby	9½	9½	9½	9½	8	9½	8½	6	6	6
St. Albans	9	9	9	9–10	9	9–10	8	6½	6	6½
St. Helens	9	9½	10	9½	9½	9½	9½	6	6	6
Scarborough	8½	9	8½	8½	8	9	8	7	7	7
Sheffield	10½	9½	9½	9½	9½	9½	8	6½	6½	6½
Shrewsbury	8½	8½	8½	9½	—	8½	7	5½	5½	5½
Southampton	8½	9½	9½	8½	—	9½	8½	6½	6½	6½
Southend-on-Sea	9	9	9	9	P'cework	9	7	6	6	6½
Southport	10	10	9½	9½	9½	9½	9½	6½	6½	6½
South Shields	10½	10½	10½	10½	10	8½	9	7½	7½	7½
Stockport	10½	10	10	10½	9	10	8½	6	6½–7	7½
Stockton-on-Tees	9	10	9½	10	10	10	9	7	7	7½
Stoke-on-Trent	9	9½	9	9	—	8½	8½	6	6	—
Stroud	7½	7½	7½	7½	7½	7½	7	5	5	5
Sunderland	10	10½	10	10	10	9	9	6½	6½	7
Swansea	9½	9½	9½	9½	8½	9	9	6½	6½	6½
Taunton	7	7	7	7	—	6	6½	4½	4½	4½
Torquay	8	8	8	8	8	8	8	6	6	6
Wakefield	9½	9½	9	9½	8½	9	8	7	7	7
Walsall	9½	9	9	9	8½	9	8	6½	6½	6½
Warrington	8½	9½	9½	10	8½	9½	8½	5½–6	6	6–6½
West Bromwich	10	10	9½	9½	—	9	8	7	7	7
Wigan	10	10½	9½	9½	9	9½	9½	7	7	7
Windsor	9	9	9	10	—	9	—	6	6	6
Wolverhampton	9½	9½	9½	10	8	10	8	6½	6½	6½
Worcester	8½	9	9	9	8½	9	7½	6	6	6
York	9½	9½	9	9½	9½	8½	8½	6½	6½	6½

The masons' rate given is for bankers; fixers usually ½d. per hour extra.

[*Photo. by J. Bullough.*

"Vanishing Chiswick."

VANISHING CHISWICK.

WITHIN the last few weeks an interesting memorial, connected by name at least with one of England's most successful generals, has disappeared, pulled down to effect a road-widening in front of the Turnham Green Vicarage for the ever-increasing motor traffic. It was of no artistic beauty, as can be seen by the annexed view, as it merely consisted of two gate piers; but as these once supported the gates to "Heathfield House," for some time the residence of Sir George Eliott, Lord Heathfield, the defender of Gibraltar against the French and Spaniards in 1782, their passing is to be regretted. The house itself was built by Lord Dunkeron in 1747, and in 1765 it passed to the Earl of Egmont, "who," says Mr. Phene Spiers, in his account of "Chiswick Villa" in the "Memorials of Old Middlesex," "may have bought and erected the gates, as they formerly contained his crest and arms." Lord Heathfield acquired the estate and lived at Chiswick until his death at Aix-la-Chapelle in 1790; and in 1837 the house was pulled down, and the gates were purchased by the then Duke of Devonshire and set up at the entrance to "Chiswick Villa" at the end of what is now called Duke's-avenue, whence, in 1897, they were taken and fixed in front of "Devonshire House," Piccadilly, the ironwork being reduced in length some 3 ft. at the same time. These gates, as well as those of Clandon Park near Guildford, are attributed by Mr. Starkie Gardner, who gives views of both sets in his "English Ironwork," to Warren; and a comparison of them suggests that the Chiswick gates have suffered by the loss of the end pilasters, which would account for the missing 3 ft. We are indebted to Mr. H. J. Whitman, an old Chiswick inhabitant and brother to the late Mr. Alfred Whitman, of the British Museum, for the use of the photograph of the piers, taken just before their destruction.

We may mention that recently another and much less necessary road-widening at the end of Sutton-lane led to the destruction of a picturesque corner consisting of the old stables, gateway, and much fine old walling forming part of the Manor House of Little Sutton, the "Chiswick Treasure-house" of current police reports. J. TAVENOR PERRY.

THE ARCHITECTS' BENEVOLENT SOCIETY.

THE sixty-fifth annual general meeting of the Architects' Benevolent Society was held on April 20th at the rooms of the Royal Institute of British Architects, No. 9, Conduit-street, W.

The President, Mr. Ernest Newton, A.R.A., occupied the chair, and among those present were Messrs. E. Guy Dawber, H. L. Florence, H. Lovegrove, H. Chatfeild Clarke, F. Bartleet, E. Greenop, Saxon Snell, Osborn Hills, Herbert Shepherd, H. Porter, Reginald St. Aubyn Roumieu, Percy Tubbs, G. Scamell, and Hilton Nash.

The minutes of the previous meeting were read and confirmed.

The Hon. Secretary read the annual report of the Council as follows:—

The Council of the Architects' Benevolent Society, in submitting their sixty-fifth annual report, regret that they have to record a falling-off in the amount of subscriptions, as compared with last year, of £27 18s. As no doubt many subscribers have been affected by the war, it is feared that this diminution may be increased during the coming year, unless those who are in a position to do so assist the Society by either augmenting their subscriptions or assisting the Council to obtain new subscribers.

The sum of £1,150 15s. has been distributed in grants and pensions—an increase of £141 as compared with the previous year.

The capital account, on the other hand, has been increased. The Society in this connection is greatly indebted to the generosity of Mr. Henry L. Florence, Vice-President, who last June presented a donation to the funded property of the Society of £1,000 City of London Corporation 3½ per cent. Bonds, 1914, fully-paid scrip. For many years Mr. Florence has manifested his interest in the Society, both by active work as a member of the Council and by contributions, and the Council feel that the beneficial work of the Society could receive no greater testimony to its practical usefulness than this handsome contribution from one with so intimate a knowledge of its character and scope.

The capital was further increased by a donation of £550 made by Mr. George Neat, acting under the discretion given to him by the will of the late Mr. Frederick Ingle, of 24, Queen Anne's-gate, S.W., and Chesterworth, Lincolnshire. A further instalment of £500 was received from the executors of the late Mr. William Glover, making the total amount received to date from this source £1,200. The Society is also indebted to the Chelsea Arts Club for a donation of £50 and to the following donors:—Mr. Balfour Abercrombie, £10 10s.; Mr. C. Stanley Peach, £10 10s.; Mr. Reginald St. A. Roumieu, £10 10s.; Mr. Benjamin Inglelow, £10 10s.; Mr. W. H. Scrymgour, £10; Mr. Frank Lishman, £6 13s. 6d.; and to various donors of smaller sums.

In the autumn the Council were informed by the executors of the late Mrs. Arthur Cates that she had left the Society a legacy of £1,000. As this amount was not, however, received before the end of the year it is not included in the year's accounts.

Shortly after the declaration of war a committee, representative of the architectural profession as a whole, the Architects' War Committee, was formed, and issued a special appeal for contributions for the relief of members of the profession or their dependants who are in distress caused by the war. In November this committee handed over to the Society the sum of £591 19s. 6d., with the request that the sum should be administered in the relief of such cases, but that assistance need not necessarily be given only in the form of charitable doles. The Council have opened a separate account at the bank for this and any subsequent amounts that may be received from the Architects' War Committee, and are distributing grants among applicants, as well as contributing, subject to certain conditions, to the funds of the Professional Employment Committee of the London Society, both of which bodies are endeavouring to provide work for members of the profession who are in temporary difficulties in consequence of the war. At the termination of the administration of this fund a detailed account will be issued.

The following, being the five senior members, retire by rotation from the Council: Mr. E. Arden Minty, Mr. Wm. Woodward, Mr. Arthur Ashbridge, Mr. Sydney F. Bartleet, and Mr. E. Guy Dawber. To fill the vacancies caused by these retirements the Council have the pleasure to nominate Mr. W. Campbell Jones, Mr. Walter L. Spiers, Mr. Percy B. Tubbs, Mr. W. Henry White, and Mr. Edward Greenop.

The Council have again the pleasure to nominate Mr. Henry L. Florence and Mr. Reginald St. A. Roumieu as Vice-Presidents.

In concluding this report the Council earnestly hope that they may be assisted by the active co-operation of members of the achitectural profession in obtaining fresh contributions, as there are indications that assistance will become a matter of greater urgency in the crisis through which the country is passing at the present time, and that the resources of the Society will be heavily taxed.

The President, in moving the adoption of the report, said that the goal the Society had had in view had now been attained, the amount of their capital having reached £20,000. He suggested that they should now aim at making the sum £30,000.

The motion was seconded by Mr. Howard Chatfeild Clarke, and adopted by the meeting.

On the motion of Mr. Guy Dawber, seconded by Mr. Saxon Snell, the Council for the session 1915-16 were elected as follows:—

President—The President R.I.B.A., Mr. Ernest Newton, A.R.A.

Vice-Presidents—Mr. H. L. Florence; Mr. Reginald St. Aubyn Roumieu.

Ordinary Members—Messrs. Henry Lovegrove, Wm. Grellier, C. R. Baker King, Andrew T. Taylor, W. D. Caröe, Basil Champneys, H. Chatfeild Clarke, Stanley Peach, Horace Porter, W. Campbell Jones, Walter L. Spiers, Percy Tubbs, W. Henry White, Edward Greenop, and the President of the Society of Architects (Mr. E. C. P. Monson).

On the motion of Mr. Florence, seconded by Mr. Lovegrove, Mr. Hilton Nash was thanked for his past services and re-elected as Hon. Treasurer.

Mr. Nash, in acknowledging his re-election, said it gave him more pleasure each year to do the small amount of work which fell to his lot to carry out, and he would have great pleasure to act as Hon. Treasurer for the coming year.

Mr. H. Chatfeild Clarke moved a vote of thanks to Mr. Percivall Currey and his re-election as Hon. Secretary. The motion was seconded by Mr. Bartleet and unanimously carried.

On the motion of Mr. Roumieu a vote of thanks was accorded to Mr. E. Greenop and Mr. W. H. White for their services as auditors, which was seconded by Mr. Tubbs and unanimously carried.

Mr. Hilton Nash moved that Mr. Herbert Shepherd and Mr. Osborn C. Hills be elected as auditors for the ensuing year, and also that a special vote of thanks be accorded to Messrs. Saffery and Sons for the services they had rendered to the Society. The motion was carried.

Votes of thanks were also accorded to Mr. Dirks for his services as Secretary to the Society and to the Chairman for having presided over the meeting.

After the meeting donations were received or promised from the President, Mr. H. Chatfeild Clarke, Mr. H. Lovegrove, Mr. Percivall Currey, Mr. Hilton Nash, Mr. Albert E. Kingwell, and Mr. C. H. Lohr.

LAW REPORTS.

CHANCERY DIVISION.

(Before Mr. Justice EVE.)

Action for Alleged Nuisance:

Worksop and Retford Brewery Company, Ltd., *v.* Worksop Palace Company, Ltd.

IN this case, which came before the learned Judge last week, the plaintiff company sought an injunction to restrain the defendants, a picture palace company, from creating a nuisance by reason of noise and vibration from their electric plant.

Mr. Jessel, K.C., said his clients, the plaintiffs, were the owners of licensed premises adjoining the defendants' picture theatre. Defendants had agreed to the injunction being granted, and he therefore asked his Lordship to treat the motion as the trial of the action.

His Lordship assented, and granted the plaintiffs a perpetual injunction against the defendants.

COURT OF APPEAL.

(Before the MASTER OF THE ROLLS and Lords Justices SWINFEN EADY and PICKFORD.)

Strand Widening, Claim to Alleged Party Wall: Appenrodt *v.* London County Council.

THIS case was heard last week upon the plaintiff's appeal from a judgment of Mr. Justice Eve in the Chancery Division.

In this case the plaintiff, Mr. Hermann Appenrodt, brought the action against the defendant Council for a declaration that the wall now being the east or flank wall, being the external wall of the premises, No. 75, Strand, commonly known as the Adelphi Stores, was the property of the plaintiff; that such wall was not and never was a party wall and that the defendants had no estate or interest in such wall; that pursuant to an agreement of November 30, 1911, made between the parties in relation to the said wall and premises, the plaintiff was discharged from all obligation thereunder imposed, and for a declaration that the plaintiff was entitled to use certain windows.

It appeared that by a lease dated December, 1898, No. 75, Strand and certain vaults were demised to a Mr. Burney for a term of sixty years at £500 a year. In 1911 the plaintiff became possessed of the premises for the residue of the term. Under the Strand Improvement Act, 1896, No. 76, Strand and other premises were acquired, and the substantial question in the present case was the ownership of the wall which formerly separated the premises Nos. 75 and 76, Strand. The widening of the Strand authorised by the Act stopped short at its western end at No. 75, Strand, and the effect had been to have the eastern wall, the flank wall of No. 75, projecting at a right angle from the Hotel Cecil into the widened thoroughfare for a distance of some 26 ft. The plaintiff alleged that neither the defendants nor their predecessors in title had any estate or interest in it, and that he was entitled to open windows or construct a return shop-front in the projecting wall, or use it for the beneficial occupation of his premises, and in these circumstances the plaintiff claimed the declaration in question. The defendants contended that they were entitled as tenants in common with the plaintiff or owner of the freehold interest in No. 75 to an undivided moiety of the wall projecting or the major part of it. Mr Justice Eve, in the Court below, came to the conclusion that the plaintiff had failed to make out his case that he was still the owner of the wall or that the defendants had no estate or interest in it. His Lordship accordingly refused to make the declaration claimed, and from that decision the plaintiff now appealed.

Mr. P. O. Lawrence, K.C., Mr. Clayton, K.C., and Mr. Ripton appeared in support of the appeal; and Mr. Maugham, K.C., and Mr. Attwater for the respondents.

At the conclusion of the arguments of counsel their Lordships allowed the appeal, and held that the wall in question was the property of the appellant, and that the County Council had not, in the circumstances and upon the evidence, any easement in or right of support from that wall.

The appeal was accordingly allowed, with costs.

KING'S BENCH DIVISION.

(Before Mr. Justice ATKIN.)

Action against Builder and Decorator for Alleged Negligence: Jennings *v.* Beaton.

IN this case, which was heard last week, the plaintiff, a lady residing in Carlisle-mansions, Victoria-street, brought the action against the defendant, a builder and decorator carrying on business in Pimlico, for damages for alleged negligence.

Mr. Rayner Goddard, for the plaintiff, said his client claimed damages from the defendant by reason of the injury caused to certain of her property through a large picture, which the defendant had contracted to hang for her at her flat, falling. Plaintiff's allegation was that the picture in question had been negligently hung by the defendant or his workmen, thus causing the damage complained of. Plaintiff, who was a widow, had lived all her life in Paris, and in October, 1913, she, with her husband, a doctor, who had practised in Paris, came to reside in London and took a flat in Carlisle-mansions, Victoria-street. Plaintiff then engaged the defendant to do, among other things, the hanging of pictures upon the walls. This work the defendant by his workmen did on October 30 and 31 and November 2, 1913. When the plaintiff was away in Scotland in the following July a large picture, which the defendant's men had hung in the drawing-room, fell, smashing a marble-top table, a considerable amount of china, and doing damage, as the plaintiff alleged, to the extent of £45.

Evidence having been called in support of the plaintiff's case, Mr. Hugh Fraser, on behalf of the defendant, contended that the damage was too remote, that the defendant had not in the circumstances been guilty of negligence, and that the action did not lie.

In the result his Lordship found the negligence of the defendant's servants proved, and gave judgment for the plaintiff for £31 10s., and damages and the costs of the action.

Builder and His Employee's Insurance Card.

MR. M. J. ALLEN, builder, of 117B, Galloway-road, was sued at the Marylebone County Court recently by the Board of Trade for £1 18s 3d., arrears of contributions in regard to an employee's insurance card.

It was stated by Dr. Ginsberg, counsel for the Board of Trade, that a man named Judd was employed by the defendant in washing off old paper in several private houses owned by the defendant. Judd asked if he was to be insured, and defendant answered that he was not, as he did not come within the Act. Therefore Judd had never had an unemployment book and no money had been deducted from his wages. The simple point raised was that the man Judd did not come within the scope of the schedule; but counsel contended that a man who was stripping paper from walls is clearly engaged in building work.

Judd, in his evidence, said that he was not an educated man, and when he was told that he did not need an unemployment book he thought it was all right. When he went to the Labour Exchange for work he was asked for his book, which, of course, he could not supply. He had been whitewashing and stripping walls at houses in Shepherd's Bush.

Judgment was given for plaintiffs, with leave to proceed.

NEW COMPANIES.

THE undermentioned particulars of new companies recently registered are taken from the Daily Register compiled by Messrs. Jordan & Sons, Ltd., Company Registration Agents, Chancery-lane, W.C.:—

BRYNNA GAS COAL COLLIERIES, LTD. (139,835), Atlantic-buildings, Gloster-place, Swansea. Registered March 31. To acquire the Brynna Colliery at Peterstone-super-Montem, Glamorgan, and to carry on business as colliery proprietors, coke manufacturers, brick and tile manufacturers, slate merchants, builders, contractors, etc., and to deal in fireclay, brick earth, etc. Nominal capital, £25,000 in 1,750 £10 Ordinary shares, 722 £10 6 per cent. Cumulative Preference shares, and 280 £1 Deferred shares.

MAYFAIR PROPERTIES, LTD. (139,900), 24, Lincoln's Inn-fields, W.C. Registered April 8. Builders, contractors, decorators, dealers in and manufacturers of bricks, tiles, stone, marble, chalk, sand, etc. Nominal capital, £1,500 in £1 shares.

WALPAMUR COMPANY, LTD. (139,914), Hollin's Paint Works, Darwen, Lancs. Registered April 9. Manufacturers of and dealers in distempers, water-colours, oil-colours, varnishes, paints, enamels, decorators' materials, builders' materials, brushes, etc. Nominal capital, £20,000 in £1 shares.

GEORGE BRITTAIN & SONS, LTD. (139,918), 366, Kennington-road, S.E. Registered April 10. To enter into an agreement and to carry on business of architects, house and estate agents, builders and decorators, electrical engineers, cabinet-makers, upholsterers, timber merchants, potters, marble, slate, and stone workers, etc. Nominal capital, £4,000 in £1 shares.

METROPOLITAN ASYLUMS BOARD.

AT the monthly sitting of the Metropolitan Asylums Board on Saturday the following matters were dealt with:—

Staff Cottages.—The Local Government Board wrote approving of the plans for eight staff cottages on the River Hospitals Estate, but expressed the opinion that the work should be postponed.

North-Eastern Hospital.—A letter was also received from the Local Government Board stating that they were of opinion that the expenditure upon the proposed reconstruction of the temporary buildings at the North-Eastern Hospital should be postponed, but suggesting, however, that, notwithstanding the postponement, a Conference might be arranged at an early date, in regard to the suggested modifications of the scheme, in order to avoid delay when it is considered expedient to undertake the work.

Brook Hospital.—It was agreed to expend £400 on repairs to the hot-water service.

TRADE CATALOGUES.

We have before us a copy of the catalogue of Messrs. Mather & Platt, Ltd., of Park Works, Manchester, which describes their various specialities, including the "Simplex" Chemical Fire Extincteur. Probably few of the many varieties of chemical fire-extinguishers before the public can claim much conformity with the rules laid down for these appliances by the Fire Office and British Fire-Prevention Committees. Failure to withstand pressure at the moment of operation, through choking, the effects of rust and corrosion, or inherent weakness of construction, is the common drawback. There is no doubt that these small hand fire-engines, when properly designed and constructed, can often prove of enormous value. The form of "Simplex" extincteur now made by Messrs. Mather & Platt, Ltd., has been specially designed to meet the requirements of the British Government, who have placed an order with the firm which is believed to be the largest ever given for fire-extincteurs in this or any other country. The type of extincteur which the firm are now putting on the market is identical with the Government appliance in every detail, with the sole exception of the Royal cipher. The "Simplex" extincteur depends for its operation on the reaction of sulphuric acid upon a bicarbonate of soda solution. The acid is contained in a hermetically-sealed bottle, suspended over the liquid, which is discharged through the jet upon smashing the bottle by striking a knob at the top of the extincteur. The fluid, which has a great extinguishing power, is ejected to a distance of 50 ft. or 60 ft. In this appliance there are no valves or rubber hose, whilst the jet orifice is protected from glass splinters or other foreign material by a cone-shaped sieve. An opening at the top, 3 in. in diameter, is provided, through which the acid bottle can be withdrawn should it be desired to examine the interior.

We have received a catalogue from Mr. George Deacon, of Lower Thrift-street, Northampton, illustrating his system of patent glazing. Deacon's patent lead glazing has the following advantages:—It is neat, simple, and air-tight, and can be used as well on wood bars as steel, the builder can provide and fix his own rafters, and all painting can be done before glazing, thus saving cost. The glazing strip consists of a wood core with sheet-lead folded on. The core makes the strip very rigid and easy to handle and fix, and also forms a support for boards or planks, making access easy to any part of the roof. The rafters may be of any section, providing they have condensation channels on top. The catalogue is illustrated, and what is claimed for the system is fully borne out. Particulars are also given of Deacon's patent openers for fanlights and skylights.

PATENTS.

APPLICATIONS PUBLISHED.*

*6,751 of 1914.—Edward Charles Robert Marks (Samuel Davidson, John Brubacher Shantz, and Joseph William Ellis): Manufacture of artificial stone and tiles.

7,401 of 1914.—Joseph Rule: Jigging apparatus for grading sand.

7,551 of 1914.—Robert Harvey Adams: Checking appliances for use with door springs.

7,614 of 1914.—Ben Morton: Reinforced brickwork columns and piers.

7,755 of 1914.—Guy St. Barbe Sladen Watkins: Supports for tents, marquees, temporary bridges, and other portable structures.

7,918 of 1914.—Albert Alonzo Pauly: Fireproof floors and roofs.

8,697 of 1914.—Erik Madsen: Flushing tanks for water-closets.

8,808 of 1914.—Warren Chalmers Rees: Closet seats and guards therefor.

10,297 of 1914.—Thomas James Roussel: Weatherproof windows.

10,409 of 1914.—Alfred Woolnough, Ernest Mayne, and Bert Byford: Hinges for metal casements.

12,927 of 1914.—Philip Henry Trout: Concrete tile-making machine.

14,424 of 1914.—Edward William Rees: Shape of wooden "Jack" and "trying" planes.

14,458 of 1914.—James William Hughes: Furnaces for use in the manufacture of artificial stone.

14,592 of 1914.—George Amor Fair: Sash controlled ventilating window or doors.

17,888 of 1914.—Edward Bignell: Piles and caissons.

18,327 of 1914.—Wilfred Arnold Green: Instrument for drawing curves.

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* All these applications are in the stage in which opposition to the grant of Patents upon them can be made.

List of Competitions, Contracts, etc.

For some contracts still open, but not included in this List, see previous issues. **Those with an asterisk (*) are advertised in this number:** Competitions, — ; Contracts, iv., vi., viii. ; Public Appointments, — ; Auction Sales, —. Certain conditions beyond those given in the following information are imposed in some cases, such as: the advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

*** It must be understood that the following paragraphs are printed as news, and not as advertisements; and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that *may* occur.

Competitions.

NO DATE. — **Cheshire.** — COTTAGES. — Messrs. Lever Bros. invite designs for cottages on the Bromborough Estate. Nine premiums are offered. See advertisement in issue of March 19.

NO DATE.—**Stepney.**—MUNICIPAL BUILDINGS.—The Stepney B.C. invite designs for the proposed municipal buildings. Conditions may be obtained from Mr. G. W. Clarke, Town Clerk, Municipal Offices, 15, Gt. Alie-street, Whitechapel, E.

NO DATE. — **Whitehaven.** — HOSPITAL. — The Galemire Joint Hospital Committee invite competitive designs from architects for a small hospital proposed to be erected in their district. Particulars of Mr. E. B. Croasdell, Clerk, Union Hall, Whitehaven.

Contracts.

BUILDING AND PAINTING.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

APRIL 26. — **Barnsley.** — HOUSE.—Erection of house in Mount Vernon-road, Barnsley. Quantities, etc., of Mr. A. Whitaker, architect, Kingwell, Worsborough Dale, Barnsley.

APRIL 26. — **Darlington.** — ALTERATIONS. — Alterations to premises in Priestgate for the Darlington Co-operative and Industrial Society, Ltd. Specifications of the Secretary at the Society's office, Priestgate.

APRIL 26. — **St. Helens.** — VARIOUS.—For gas-fitting glazing, painting, and plumbing at Allanson-street School for the E.C. Quantities of the architects, Messrs. Biram & Fletcher, George-street, St. Helens. Deposit, £1 1s.

APRIL 27. — **Barnsley.** — VILLAS.—Erection of pair of semi-detached villas at Park-road, Barnsley. Quantities of Mr. W. T. Turner, Market-hill, Barnsley.

APRIL 27. — **Dewsbury.** — SHEDS.—All trades (except plasterer) for erection of storage sheds at Savile Mills, Savile Town. Quantities of Messrs. C. H. Marriott, Son, & Shaw, Church-street-chambers, Dewsbury.

APRIL 27. — **Easington Colliery.** — CHAPEL.—Erection of a Wesleyan Methodist chapel at Easington Colliery. Names to the architect, Mr. J. Wilson Hayes, Wingate, Co. Durham. Deposit, £1.

APRIL 27. — **Uxbridge.** — SHED.—Erection of a corrugated-iron bathing-shed on land adjoining the River Frays, Uxbridge, Middlesex, for the Uxbridge U.D.C. Specification from the Council's Surveyor, Mr. William L. Eves, F.S.I., 54, High-street, Uxbridge.

APRIL 28. — **Glasgow.** — TENEMENTS.—Various trades required in the erection of two tenements at the corner of Gallowgate and Moore street for the Corporation. Specifications at the Office of Public Works, 64, Cochrane-street.

APRIL 28.—**Hartlepool.**—PAINTING.—For painting twenty-two houses in Warren-street, Corporation-road, and Northgate-street, and thirteen houses in Northgate-street, Russell-street, Commercial-street, and Bond-street, for the Corporation. Specifications of Mr. P. Horsley, Borough Engineer, Hartlepool.

APRIL 28. — **Lanchester.** — REPAIRS, ETC.—For general repairs and painting of the Cottage Homes, Lanchester, Co. Durham, for the B.G. Specifications of Mr. G. T. Wilson, architect, 22, Durham-road, Blackhill.

APRIL 30. — **Devizes.**—FARM BUILDINGS, ETC.—Erection of cottage and farm buildings on land adjoining Devizes Barracks. Specifications of Mr. Jabez Abrahams, Bedborough, Devizes.

MAY 6. — **Hull.** — OFFICES, ETC.—Erection of offices, wheel shop, and alterations to workshops, etc., engine sheds, Dairycoates, Hull, for the North-Eastern Railway Company. Quantities of Mr. Arthur Pollard, Company's Architect, York.

MAY 6.—**Pengam.**—CLUB.—Erection of a new Constitutional Club at Twyn-y-ffald, Pengam, Mon., for the Twyn-y-ffald Constitutional Club Company, Ltd. Quantities of Mr. D. J. Thomas, architect, Blackwood. Deposit, £2 2s.

* MAY 6.—**Sutton-in-Ashfield.**—POST OFFICE.—The Sutton-in-Ashfield U.D.C. invite tenders for erection of a post office.

MAY 10. — **Darton.** — WALLS, ETC.—Building of boundary walls and other works in connection with the enlargement of Gawber Churchyard for the Darton U.D.C. Quantities, etc., of Mr. S. Wilkinson, Surveyor, Council Offices, Darton.

MAY 15.—**Morocco.**—SHED.—Construction of shed at the Custom House, Laraiche, for the Special Committee of Public Works. Estimated value of contract £1,293. Copy of particulars at the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, E.C.

NO DATE. — **Hanging Heaton.** — CLUB.—Erection of new club and institute for Hanging Heaton. Names to the Secretary, 138, High-street, Hanging Heaton, near Dewsbury.

NO DATE.—**Nottingham.**—HUTS.—Erection of huts at the Bagthorpe Infirmary (War Office plan) Particulars of Mr. J. A. Battersby, 50, Shakespeare-street, Nottingham.

NO DATE. — **Scarborough.**—HOUSE.—Erection of small detached house off Dean-road. Names to Mr F. Mitchell, architect, 9, Upper Fountaine-street, Leeds.

NO DATE. — **Scunthorpe.** — DEMOLITION.—For pulling down of old furnace. Particulars of the North Lincolnshire Iron Company, Ltd., Scunthorpe, Lincolnshire.

NO DATE. — **Skipton.** — HOUSES.—Erection of four houses at Threshfield for Mr. Delaney. Quantities of Mr. J. W. Broughton, architect, Skipton.

FURNITURE, MATERIALS, etc.

APRIL 26. — **Burgess Hill.**—GRANITE.—Supply of 550 tons of broken granite, between 1¼-in. and 2-in. gauge, and 125 tons of small granite for binding, for the Burgess Hill U.D.C. Tender forms from the Surveyor, Burgess Hill, Sussex.

APRIL 26. — **Burgess Hill.** — TAR.—Supply of 10,000 gallons of refined coal-tar for road surfaces for the U.D.C. Mr. A. F. Harwick, Clerk, Burgess Hill.

APRIL 26.—**Hetton.**—SLAG.—Supply of ordinary and tarred slag to the U.D.C. of Heaton. Forms of tender from the Surveyor, Mr. John Harding, Council Offices, Hetton-le-Hole.

APRIL 27. — **St. Neots.** — ROAD MATERIALS.—Supply to St. Neots U.D.C. of 1,000 tons broken granite, 100 tons basalt, 100 tons tar-macadam, 100 tons slag dust. Form of tender of Mr. John Edey, Town Surveyor, Corn Exchange, St. Neots.

APRIL 27. — **Whitstable.** — MATERIALS.—Supply to the Whitstable U.D.C of flints, hoggin, sand, ballast, tar, cement, and tar-macadam. Specifications of Mr. Frank Laurens, Surveyor, Council Offices, Whitstable.

APRIL 30. — **Pontypridd.**—MATERIALS.—Supply to the Pontypridd and Rhondda Joint Water Board of ironmongery, iron, steel, tools, picks, hammers, etc., chain brushes. Form of tender of the Waterworks Engineer, 27, Gelliwastad-road, Pontypridd. Deposit, 10s. 6d.

MAY 1.—**Glasgow.**—MATERIALS.—Supply to the Corporation Lighting Department of materials, etc., and executing the jobbing work required by the department for one year. Specifications at the Office of the Lighting Department, 20, Trongate.

MAY 1.—**Saffron Walden.**—MACADAM.—Supply of about 900 tons of granite macadam, broken to 1½-in gauge, and 100 tons of ¾ in. to ½ in. granite chips. Mr. A. H. Forbes, Borough Surveyor, Saffron Walden.

MAY 8.—**Lexden.**—ROAD MATERIALS.—Supply to the Lexden and Winstree R.D.C. of granite, Kentish flints, and local materials. Forms of tender of Mr. John Ennals, Surveyor's Office, Lexden, Colchester.

MAY 15. — **Egypt.** — POST OFFICE STORES.—Supply to the Postmaster-General, Alexandria, of various stores, including letter-boxes and accessories, lamps and electric fans, enamelled plates, rolling stock, safes, strong cupboards, safety locks, etc. Copy of specification at the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, E.C.

JUNE 1. — **Johannesburg.**—PAINT.—Supply of certain paints to the Johannesburg Municipality. Copy of specification at the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, E.C.

ENGINEERING, IRON, AND STEEL.

APRIL 26. — **Merton.**—IRON FENCING.—Supplying and fixing about 700 yds. run of unclimbable iron railing with gates at Morden-road Recreation Ground for the Merton and Morden U.D.C. Form of tender of Mr. G. Jerram, Surveyor, Council Offices, Merton, Surrey.

APRIL 26.—**Pontrhydyfen.**—DRIFT.—Driving of a new drift at the Argoed Colliery, Pontrhydyfen, near Port Talbot. Specification of the Colliery Manager, at the Colliery.

APRIL 27.—**India.**—RAILS, ETC.—Supply to His Highness the Nizam's Guaranteed State Railways Company, Ltd., of:—(1) 6,547 steel F.F. rails, 85 lb.; 6,737 pairs steel fishplates. (2) 49,205 transverse steel sleepers, weighing 139 lb. each; 212,257 steel keys. (3) Fencing materials. (4) Cast-iron pillars and bases for fencing. Specifications of Mr. M. T. Walker, Secretary, Winchester House, Old Broad-street, London, E.C. Charge, 10s.

APRIL 29.—**Hendon.**—ELECTRICITY INSTALLATION.—For installation of electricity and other works at the Redhill Institution, near Edgware, for the Hendon B.G. Specifications at the Union Offices, Edgware. Deposit, £2 2s.

APRIL 29.—**Hull.**—ELECTRIC-LIGHT INSTALLATION.—For electric-light installation and fittings required at the Girls' Secondary School, Cottingham-road, now in course of erection. Specifications of Mr Joseph H. Hirst, City Architect, Guildhall, Hull.

APRIL 29. — **Manchester.** — CHAINS, ETC.—Repair and renewal of the chains and ironwork in connection with the swings, etc., in the various parks for the Corporation. Specification of the City Architect, Town Hall. Deposit, 10s. 6d.

APRIL 30.—**London.**—SLOTTED PLATES.—Supply to the Commissioners of His Majesty's Works, etc., of 180 gross iron slotted plates. Forms of tender of the Controller of Supplies, H.M. Office of Works, 18, Queen Anne's-gate, Westminster, S.W.

* MAY 10.—**Mells.**—TENDERS FOR NEW HEATING APPARATUS.—The Churchwardens invite tenders for new heating apparatus at Mells Church, Frome.

MAY 13. — **Gosport.** — AIR COMPRESSORS.—Conversion of a pair of 18-in. stroke horizontal cross high-pressure independent condensing, tandem-driven, double-acting air compressors into two pairs of horizontal cross-compound independent condensing and tandem-driven double-acting air compressors for the Gosport and Alverstoke U.D.C. Specification of Mr. H. Frost, Engineer, Gosport. Deposit, £1 1s.

MAY 15. — **Egypt.** — WATER METERS. — The Egyptian *Journal Officiel* states that tenders will be received by the Municipality of Helwân for the supply of fifty rotary water meters. Conditions of tender from the Municipality.

MAY 21. — **New Zealand.** — HYDRO ELECTRIC PLANT.—For hydro electric plant in connection with the Lake Coleridge power scheme for the Public Works Offices, Wellington, New Zealand. Specifications to be consulted at the office of the High Commission for New Zealand, 13, Victoria-street, Westminster, S.W.

JUNE 1.—**Johannesburg.**—CIRCUIT BREAKERS.—Supply of circuit breakers to the Johannesburg Municipal Council. Copy of specification to be seen at the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, E.C.

JUNE 15.—**Australia.**—VARIOUS.—Supply of following to the Melbourne City Council:—(*a*) Four boilers of water tube type; (*b*) eighteen coal-weighing machines; (*c*) two fuel economisers; (*d*) turbine-driven feed water pipe; (*e*) two circulating water pumping sets. Specifications of Messrs. McIlwraith, McEacharn, & Co., Billiter-square-buildings, London, E.C. Deposit, 5s. in respect of each specification.

ROAD, SANITARY, AND WATER WORKS.

APRIL 26.—**Keighley.**—SEWER.—Construction of 65 yds. of 12-in. pipe sewer in Becks-road. Particulars from the Borough Engineer, Keighley.

APRIL 26. — **Rotherham.**—SEWER.—For laying 565 lin. yds. of 9-in. stoneware pipe sewer in parish of Maltby for the R.D.C. Quantities of the Engineer, Mr. B. Hey, Imperial-buildings, Rotherham.

[Those with an asterisk (*) are advertised in this issue.]

PIPE TROUBLES

Can be PREVENTED by using

McNEILL'S Lion Brand Patent PIPE COVERINGS

This illustration shows McNEILL'S Canvas Backed Hair Felt Pipe Covering, wound spirally round a pipe, and can be easily removed.

This covering has a margin of Canvas on one side, which laps over the edge of the preceding coil, thus making a complete join of very neat appearance.

EASILY APPLIED.

NO DIRT OR MESS.

FULL PARTICULARS FROM SOLE MANUFACTURERS—

F. McNEILL & CO., Ltd., Bunhill Row, London.

WRITE FOR PRICE LISTS.

SESSIONS & SONS, Ltd.,

GLOUCESTER.

TIMBER, SLATE, & BUILDING MATERIAL MERCHANTS.

Manufacturers of all kinds of

CHIMNEY-PIECES, BATHS, LAVATORIES,

Railway Station Urinals, Closets, Sinks, Cisterns, Tables, Shelves, Milk Coolers, &c.

In Plain or Enamelled Slate, Marble. Stone, Iron, or Wood.

REGISTER GRATES, STOVES, RANGES, JOINERY & MOULDINGS, &c. EVERY REQUISITE for BUILDINGS.

BRITISH STANDARD SPECIFICATION

FOR SALT-GLAZED WARE PIPES.

BRITISH STANDARD PIPES

supplied by DOULTON & CO., Ltd., are stencilled thus:—

LONDON-MADE STONEWARE.

DOULTON LONDON

MIDLAND STONEWARE. AND LANCASHIRE STONEWARE.

DOULTON

BRITISH STANDARD TESTED PIPES

supplied by DOULTON & CO., Ltd., are stencilled thus:—

LONDON-MADE STONEWARE.

DOULTON LONDON TESTED

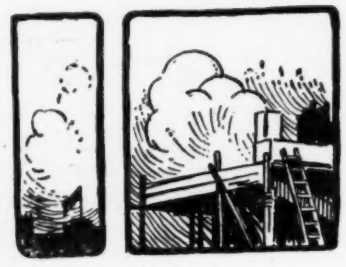
MIDLAND STONEWARE AND LANCASHIRE STONEWARE.

DOULTON TESTED

DOULTON & CO., Ltd., will be pleased to furnish quotations for pipes to comply with the above Specification issued by the Engineering Standards Committee.

DOULTON & CO., LTD., LAMBETH, LONDON, S.E.

E. D. 69.



MODERN CHANGES IN HOUSE DESIGNS.

THE importance of making provision for the latest developments in house design becomes daily more urgent. Above all the question of using gas throughout should be well considered, for this fuel is steadily superseding coal not only for fires in the reception rooms and bedrooms but also for cooking and water-heating, while the introduction of the inverted incandescent mantle is fast increasing the popularity of gas for lighting.

It is therefore essential that every builder should be thoroughly conversant with the requirements of gas installation, and we shall be glad to put at the disposal of any member of the Trade our expert advice on the subject and to collaborate as fully as possible in all cases where the use of gas in any new building either public or private is under consideration.

Any reader sending a post card to the address below will have his name added to the list of those to whom a monthly periodical, entitled "A Thousand and One Uses for Gas," is regularly sent.

Requests should be addressed to The Secretary, British Commercial Gas Association, 47, Victoria Street, Westminster, S.W.

R. 27.

ROADS, etc.—*continued.*

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

APRIL 27. — **Caerphilly.** — SEWERS.—Construction of subsidiary sewers, drains, house connections, and contingent works at Nelson, for the Caerphilly U.D.C. Specification of Mr. Alfred O. Harpur, Surveyor, Council Offices, Caerphilly. Deposit, £1 1s.

APRIL 27. — **Colchester.**—DRAINAGE.—Drainage of cemetery site at Severalls Asylum, Colchester, for the Committee of Visitors of the Essex and Colchester Lunatic Asylums. Specification of Mr. G. Topham Forrest, County Architect, 79, Duke-street, Chelmsford.

APRIL 28.—**Middlesbrough.**—STREET WORKS.—For reconstruction and paving of back street between Oxford and Barker roads with slag scoriæ blocks on slag foundation. Quantities of Mr. S. E. Burgess, Borough Engineer, Middlesbrough.

APRIL 29.—**Llantrisant.**—SEWERS.—(1) Extension of sewer at Gilfach-road, Tonyrefail; (2) surface-water drainage at the Avenue, Tonyrefail, for the Llantrisant and Llantwit Fardre R.D.C. Quantities of Mr. Thomas Saunders, Surveyor, School-street, Pontyclun. Deposit, £1.

APRIL 29. — **Oldham.**—STREET WORKS. — For making up Grendon-avenue and several back passages. Quantities at the Borough Surveyor's Office.

* MAY 5. — **Fulham.** — PAVING, ETC. — The Fulham B.C. invite tenders for making up and paving Petersborough-road (section 2).

MAY 7.—**Staines.**—WATERWORKS.—Construction of syphon chambers, conduits, and other contingent works at Staines for the Metropolitan Water Board. Specification at the offices of the Board (Chief Engineer's Department), Savoy-court, Strand, W.C. Deposit, £10.

MAY 12. — **East Grinstead.**—STREET WORKS.—Making up Warren-road, Withyham, for the East Grinstead R.D.C. Quantities of the Surveyor to the Council, Mr. Charles Turton, 6, High-street, East Grinstead. Deposit, £3 3s.

MAY 19. — **Stowmarket.**—ROADS.—For making up Victoria-road, Stowupland, near Stowmarket, for the East Stow R.D.C. Mr. H. E. Wilkes, Clerk, Market-place, Stowmarket.

NO DATE.—**West Woodburn.**—DRAINAGE.—Cutting, etc., of 1,760 yds. of water-pipe drain. Particulars of Mr. C. A. Reed, West Woodburn, Northumberland.

[Those with an asterisk (*) are advertised in this issue.]

PRICES CURRENT OF MATERIALS.

[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry.]

Oil prices have been advanced since our last issue.

*** Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.

Per 1000 Alongside, in River.

	£	s.	d.
Best Stocks	1	18	0
Picked Stocks for Facings	2	12	0

Per 1000, Delivered at Railway Depôt.

	£	s.	d.		£	s.	d.
Flettons	1	14	0	Best Blue Pressed Staffordshire	3	15	0
Best Fareham Red	3	12	0	Do. Bullnose	4	0	0
Best Red Pressed Ruabon Facing	5	0	0	Best Stourbridge Fire Bricks	4	0	0
GLAZED BRICKS—							
Best White, Ivory, and Salt Glazed Stretchers	13	0	0	Double Headers	15	10	0
Headers	12	10	0	One Side and two Ends	19	10	0
Quoins, Bullnose and 4½ in. Flats	16	10	0	Two Sides and one End	20	10	0
D'ble Str'tch'rs	18	10	0	Splays and Squints	18	0	0

Second Quality £1 10s. per 1000 less than best.

	s.	d.	
Thames and Pit Sand	7	6	per yard, delivered.
Thames Ballast	6	0	,,
Best Portland Cement	38	0	per ton, ,,
Best Ground Blue Lias Lime	21	0	,, ,,

NOTE.—The cement or lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime ..... 15s. 6d. per yard delivered.
Stourbridge Fireclay in sacks 35s. 0d. per ton at rly. dept.

STONE.

Per Ft. Cube.

	s.	d.
BATH STONE — delivered on road waggons, Paddington Depôt	1	7½
Do. do. delivered on road waggons, Nine Elms Depôt	1	9½
PORTLAND STONE (20 ft. average)—		
Brown Whitbed, delivered on road waggons, Paddington Depôt, Nine Elms Depôt, or Pimlico Wharf	2	4½
White Basebed, delivered on road waggons, Paddington Depôt, Nine Elms Depôt, or Pimlico Wharf	2	6½

Per Ft. Cube, delivered at Railway Depôt.

	s.	d.		s.	d.
Ancaster in blocks	1	10	Closeburn Red Freestone	2	0
Beer in blocks	1	6	Red Mansfield Freestone	2	4
Greenshill in blocks	1	10	Talacre & Gwespyr Stone	2	4
Darley Dale in blocks	2	4			
Red Corsehill in blocks	2	3			

YORK STONE—*Robin Hood Quality.*

Per Ft. Cube, Delivered at Railway Depôt.	s.	d.
Scappled random blocks	2	10

Per Ft. Super., Delivered at Railway Depôt.

6 in. sawn two sides landings to sizes (under 40 ft. super.)	2	8
6 in. rubbed two sides ditto, ditto	2	6
3 in. sawn two sides slabs (random sizes)	0	11½
2 in. to 2½ in. sawn one side slabs (random sizes)	0	7
1½ in. to 2 in. ditto, ditto	0	6

HARD YORK—

Per Ft. Cube, Delivered at Railway Depôt.

Scappled random blocks	3	0

Per Ft. Super., Delivered at Railway Depôt.

6 in. sawn two sides landing to sizes (under 40 ft. super.)	2	8
6 in. rubbed two sides ditto	3	0
2 in. sawn two sides slabs (random sizes)	1	2
8 in. self-faced random flags	0	5

SLATES.

Per 1000 of 1200 at Railway Depôt.

In. In.	£	s.	d.	In. In.	£	s.	d.
20 x 10 best blue Bangor	13	5	6	20 x 12 ditto	14	5	0
20 x 12 ditto	14	7	6	16 x 8 ditto	7	0	0
20 x 10 1st q'lity ditto	13	0	0	22 x 10 best blue Portmadoc	12	12	6
				16 x 8 ditto	6	10	6

TILES.

At Railway Depôt.

	s.	d.		s.	d.
Best plain red roofing (per 1000)	42	0	Best "Hartshill" brand, plain sand-faced (per 1000)	45	0
Hip and Valley (per doz.)	3	7	Do. pressed (per 1000)	42	6
Best Broseley (per 1000)	50	0	Do. Ornamental (per 1000)	47	6
Do. Ornamental (per 1000)	52	6	Hip (per doz.)	4	0
Hip and Valley (per doz.)	4	0	Valley (per doz.)	3	6
Best Ruabon red, brown, or brindle (Edw'ds) (pr 1000)	57	6	Staffords. (Hanley) Reds or Brindled (per 1000)	42	6
Do. Ornamental (per 1000)	60	0	Handmade sand-faced (per 1000)	45	0
Hip (per doz.)	4	0	Hip (per doz.)	4	0
Valley (per doz.)	3	0	Valley (per doz.)	3	6

WOOD.

BUILDING WOOD.	At per standard.					
	£	s.	d.		£	s.	d.
Deals: best 3 in. by 11 in. and 4 in. by 9 in. and 11 in.	21	10	0	..	22	0	0
Deals: best 3 in. by 9 in. 2 in. by 11 in.	21	0	0	..	22	0	0
	23	0	0	..	23	10	0
Battens: best 2½ in. by 7 in. and 8 in., and 3 in. by 7 in. and 8 in.	19	0	0	..	20	0	0
Battens: best 2½ in. by 6 in. and 3 in. by 6 in.	0	10	0		less than 7 in. and 8 in.		
2 in. by 7 in.	20	0	0	..	—		
3 in. by 4 in.	21	0	0	..	—		
2 in. by 4½ in.	22	10	0	..	—		
3 in. by 4½ in.	21	10	0	..	—		
Deals: seconds	1	0	0	less than best			
Battens: seconds	0	10	0	,,	,,		
2 in. by 4 in. and 2 in. by 6 in.	17	10	0	..	19	0	0
2 in. by 4½ in. and 2 in. by 5 in.	15	0	0	..	16	10	0
Foreign Sawn Boards— 1 in. and 1½ in. by 7 in.	0	10	0	more than battens.			
¾ in.	1	0	0	,,			

Fir timber: best middling Memel (average specification)	At per load of 50 ft. 6	15	0	..	7	15	0
Seconds	6	0	0	..	6	10	0
Small timber (8 in. to 10 in.)	5	5	0	..	5	10	0
Small timber (6 in. to 8 in.)	4	10	0	..	5	0	6
Swedish balks	4	0	0	..	4	10	0
Pitch-pine timber (30 ft. average)	8	5	0	..	9	0	0

JOINERS' WOOD	At per standard.					
White Sea: first yellow deals, 3 in. by 11 in.	33	15	0	..	35	0	0
Battens, 2½ in. and 3 in. by 7 in.	23	7	6	..	24	7	6
Second yellow deals, 3 in. by 11 in.	27	5	0	..	28	5	0
Do. 3 in. by 9 in.	25	5	0	..	26	5	0
Battens, 2½ in. and 3 in. by 7 in.	20	0	0	..	21	0	0
Third yellow deals, 3 in. by 11 in. and 9 in.	20	2	6	..	21	2	6
Battens, 2½ in. and 3 in. by 7 in.	19	0	0	..	20	0	0
Petersburg: first yellow deals, 3 in. by 11 in.	29	10	0	..	31	0	0
Do. 3 in. by 9 in.	25	5	0	..	26	5	0
Battens	19	5	0	..	20	5	0
Second yellow deals, 3 in. by 11 in.	21	10	0	..	23	0	0
Do. 3 in. by 9 in.	20	5	0	..	21	10	0
Battens	19	0	0	..	20	0	0
Third yellow deals, 3 in. by 11 in. } Do. 3 in. by 9 in.	19	10	0	..	—		
Battens	18	10	0	..	19	0	0
White Sea and Petersburg— First white deals, 3 in. by 11 in.	22	10	0	..	24	0	0
First white deals, 3 in. by 9 in.	21	0	0	..	22	10	0
Battens	18	0	0	..	19	0	0
Second white deals, 3 in. by 11 in.	20	0	0	..	21	0	0
Second white deals, 3 in. by 9 in.	19	0	0	..	20	0	0
Battens	17	10	0	..	18	10	0
Pitch-pine deals	34	0	0	..	35	0	0
Under 2 in. thick extra	0	10	0	..	1	0	0
Columbian or Oregon Pine, best quality	28	0	0	..	29	0	0
Yellow Pine—First, regular sizes	57	0	0	upwards.			
Oddments	39	0	0	,,			
Seconds, regular sizes	43	10	0	,,			
Oddments	37	0	0	,,			
Kauri Pine—Planks per ft. cube	0	7	6	..	—		
Oak Logs— Large, per ft. cube	0	5	6	..	0	6	6
Small ,, ,,	0	4	6	..	0	5	5
Wainscot Oak Logs, per ft. cube	0	10	6	..	0	12	6

WOOD (*Continued*).

JOINERS' WOOD (*Continued*)—	£	s.	d.		£	s.	d.
Dry Wainscot Oak, per ft. super, as inch	0	1	0	..	0	1	3
¼ in. do. do.	0	0	10	..	0	1	0
Dry Mahogany—Honduras, Tabasco, per ft. super, as inch	0	1	0	..	0	1	4
Selected, Figury, per ft. super, as inch	0	1	6	..	0	2	6
Cuba Mahogany	0	1	6	..	0	2	6
Dry Walnut, American, per ft. super, as inch	0	1	0	..	upwards. 0	1	3
French, "Italian," Walnut	0	1	0	..	0	1	6
Teak, per load (Rangoon or Moulmein)	28	0	0	..	34	0	0
Do., do. (Java)	24	0	0	..	27	0	0
American Whitewood planks, per ft. cube	0	6	6	..	0	7	6
Prepared flooring, etc.—					Per square.		
1 in. by 7 in. yellow, planed and shot	0	18	0	..	1	0	0
1 in. by 7 in. yellow, planed and matched	0	18	0	..	1	0	0
1¼ in. by 7 in. yellow, planed and matched	1	2	0	..	1	5	0
1 in. by 7 in. white, planed and shot	0	17	6	..	1	0	0
1 in. by 7 in. white, planed and matched	0	18	0	..	1	0	0
1¼ in. by 7 in. white, planed and matched	1	2	0	..	1	5	0
¾ in. by 7 in. yellow, matched and beaded or V-jointed boards	0	14	6	..	0	16	6
1 in. by 7 in. ,, ,,	0	18	6	..	1	1	0
¾ in. by 7 in. white ,,	0	14	6	..	0	16	6
1 in. by 7 in. ,, ,,	0	18	6	..	1	1	0

6 in. at 6d. to 9d. per square less than 7 in.

JOISTS, GIRDERS, &c.

	In London or delivered Railway Vans, per ton. £	s.	d.		£	s.	d.
Rolled Steel Joists, ordinary sections	9	10	0	..	10	10	0
Compound Girders, ordinary sections	12	0	0	..	13	0	0
Steel Compound Stanchions	13	0	0	..	15	0	0
Angles, Tees, and Channels, ordinary sections	12	0	0	..	13	0	0
Flitch Plates	12	0	0	..	13	0	0
Cast Iron Columns & Stanchions, including ordinary patterns	9	0	0	..	10	0	0

METALS.

	Per ton, in London. £	s.	d.		£	s.	d.
IRON—							
Common Bars	10	0	0	..	10	10	0
Staffordshire Crown Bars, good merchant quality	10	5	0	..	10	15	0
Staffordshire "Marked Bars"	12	0	0	..	—		
Mild Steel Bars	10	0	0	..	11	0	0
Hoop Iron, basis price	11	0	0	..	—		
,, Galvanised	19	0	0	..	—		

(* And upwards, according to size and gauge.)

Sheet Iron Black—							
Ordinary sizes to 20 g.	11	10	0	..	—		
,, ,, 24 g.	12	10	0	..	—		
,, ,, 26 g.	14	0	0	..	—		
Sheet Iron, Galvanised, flat, ordinary quality—							
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	16	10	0	..	—		
Ordinary sizes to 22 g. and 24 g.	17	0	0	..	—		
Ordinary sizes to 26 g.	18	0	0	..	—		
Sheet Iron, Galvanised, flat, best quality—							
Ordinary sizes to 20 g.	19	0	0	..	—		
,, ,, 22 g. and 24 g.	19	10	0	..	—		
Ordinary sizes to 26 g.	20	10	0	..	—		
Galvanised Corrugated Sheets—							
Ordinary sizes, 6 ft. to 8 ft. 20 g.	15	10	0	..	—		
Ordinary sizes, 22 g. and 24 g.	16	10	0	..	—		
Ordinary sizes, 26 g.	17	10	0	..	—		
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	13	10	0	..	—		
Best Soft Steel Sheets, 22 g. & 24 g.	14	10	0	..	—		
Best Soft Steel Sheets, 26 g.	16	10	0	..	—		
Cut Nails, 3 in. to 6 in.	13	10	0	..	14	0	0

(Under 3 in., usual trade extras.)

LEAD, &c.

	Delivered in London. £	s.	d.		
LEAD—Sheet, English, 4 lb. and up	25	15	0	..	—
Pipe in coils	26	5	0	..	—
Soil pipe	29	5	0	..	—
Compo pipe	29	5	0	..	—

NOTE—Delivery in country in not less than 5 cwt. lots, 1s. per cwt. extra.

	In casks of 10 cwt.				
ZINC—					
Sheet—	72	0	0	..	—

LEAD, &c. (*Continued*).
Delivered in London.

		£	s.	d.		
COPPER—						
Strong Sheet	per lb.	0	1	5	..	—
Thin ,,	,,	0	1	7	..	—
Copper nails	,,	0	1	5	..	—
Copper wire	,,	0	1	5	..	—
BRASS—						
Strong Sheet	,,	0	1	4	..	—
Thin	,,	0	1	5	..	—
TIN—English Ingots	,,	0	1	9	..	—
SOLDER—Plumbers'	,,	0	0	10	..	—
Tinmen's	,,	0	1	1	..	—
Blowpipe	,,	0	1	3	..	—

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.*
Per Ft. Delivered.

15 oz. thirds	5½d.	26 oz. fourths	6d.
,, fourths	4½d.	32 oz. thirds	8d.
21 oz. thirds	6d.	,, fourths	7d.
,, fourths	5½d.	Fluted Sheet, 15 oz.	5½d.
26 oz. thirds	7d.	,, 21 oz.	6½d.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.*
Per Ft. Delivered.

¼ Rolled plate	3d.
⅜ Rough rolled and rough cast plate	3½d.
½ Rough rolled and rough cast plate	4d.
Figured Rolled, Oxford Rolled, Oceanic, Arctic, Muffled, and Rolled Cathedral, white	5d.
Ditto, tinted	6d.

* Not less than two crates.

OILS, &c.		£	s.	d.
Raw Linseed Oil in pipes	per gallon	0	3	2
,, ,, ,, in barrels	,,	0	3	3
,, ,, ,, in drums	,,	0	3	6
Boiled ,, ,, in barrels	,,	0	3	5
,, ,, ,, in drums	,,	0	3	8
Turpentine in barrels	,,	0	3	3
,, in drums	,,	0	3	6
Genuine Ground English White Lead, (In not less than 5 cwt. casks.)	per ton	34	0	0
Red Lead, Dry	per ton	33	0	0
Best Linseed Oil Putty	per cwt.	0	10	0
Stockholm Tar	per barrel	1	12	0

VARNISHES, &c.	Per gallon. £	s.	d.
Fine Pale Oak Varnish	0	8	0
Pale Copal Oak	0	10	6
Superfine Pale Elastic Oak	0	12	6
Fine Extra Hard Church Oak	0	10	0
Superfine Hard-drying Oak, for seats of Churches	0	14	6
Fine Elastic Carriage	0	12	9
Superfine Pale Elastic Carriage	0	16	0
Fine Pale Maple	0	10	0
Finest Pale Durable Copal	0	18	6
Extra Pale French Oil	1	1	0
Eggshell Flating Varnish	0	18	0
White Plate Enamel	1	4	0
Extra Pale Paper	0	12	0
Best Japan Gold Size	0	10	0
Best Black Japan	0	16	0
Oak and Mahogany Stain	0	9	0
Brunswick Black	0	8	0
Berlin Black	0	16	0
Knotting	0	10	6
French and Brush Polish	0	10	0

[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry.]

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N.B.—Illustrations of the First Premiated Design in any important architectural competition will always be accepted for publication by the Editor, whether they have been formally asked for or not.

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than* 2 *p.m. on Wednesday*. [N.B.—We cannot publish Tenders unless authenticated either by the architect or the building owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is stated, nor any list in which the lowest Tender is under 100*l.* unless in some exceptional cases and for special reasons.]

* Denotes *accepted*. † Denotes *provisionally accepted*.

HYTHE.—Erection of small pox hospital at Scene Wood, for the Hythe Corporation:—
J. Harrison & Son, Camberwell* £536

LICHFIELD.—Carrying out of sewage scheme at Watling-street, Hammerwich, for the Lichfield Rural District Council:—
Childs & Withers* £2,124

READING.—For supply of sludge-pressing machinery, for the Corporation:—
Manlove, Alliott, & Co., Ltd.* £2,892
[Subject to the consent of the Local Government Board.]

SOUTHGATE.—Erection of Church of St. Andrew:—

Dove Bros.	£6,775	Lawrence	£6,672
Goddard & Son	6,290	Wheaton	6,040
Monk	6,210	Newby	5,940
Bentley	6,078	Knight, Tottenham*	5,878

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C. & J. Harris, Truro* £766

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—	Factory.	Houses.	Total.
C. Adams	£7,320	£1,670	£8,990
Phillips & Slow	7,390	1,220	8,610
Smith, Edmunds, & Co.	7,385	1,216	8,601
E. Brown & Son, Ltd.	7,397	1,198	8,595
Smith & Bunning	7,375	1,210	8,585
R. Marriott	7,299	1,180	8,479
O.P. Drever & Son, Ltd.	7,148	1,128	8,276
Hacksley Bros.	7,120	1,148	8,268
G. Henson & Son, Wellingborough*	6,975	1,156	8,131

YORK.—Erection of shelters, etc., at Glen-gardens, for the Corporation:—
E. Turner & Son, York* £382

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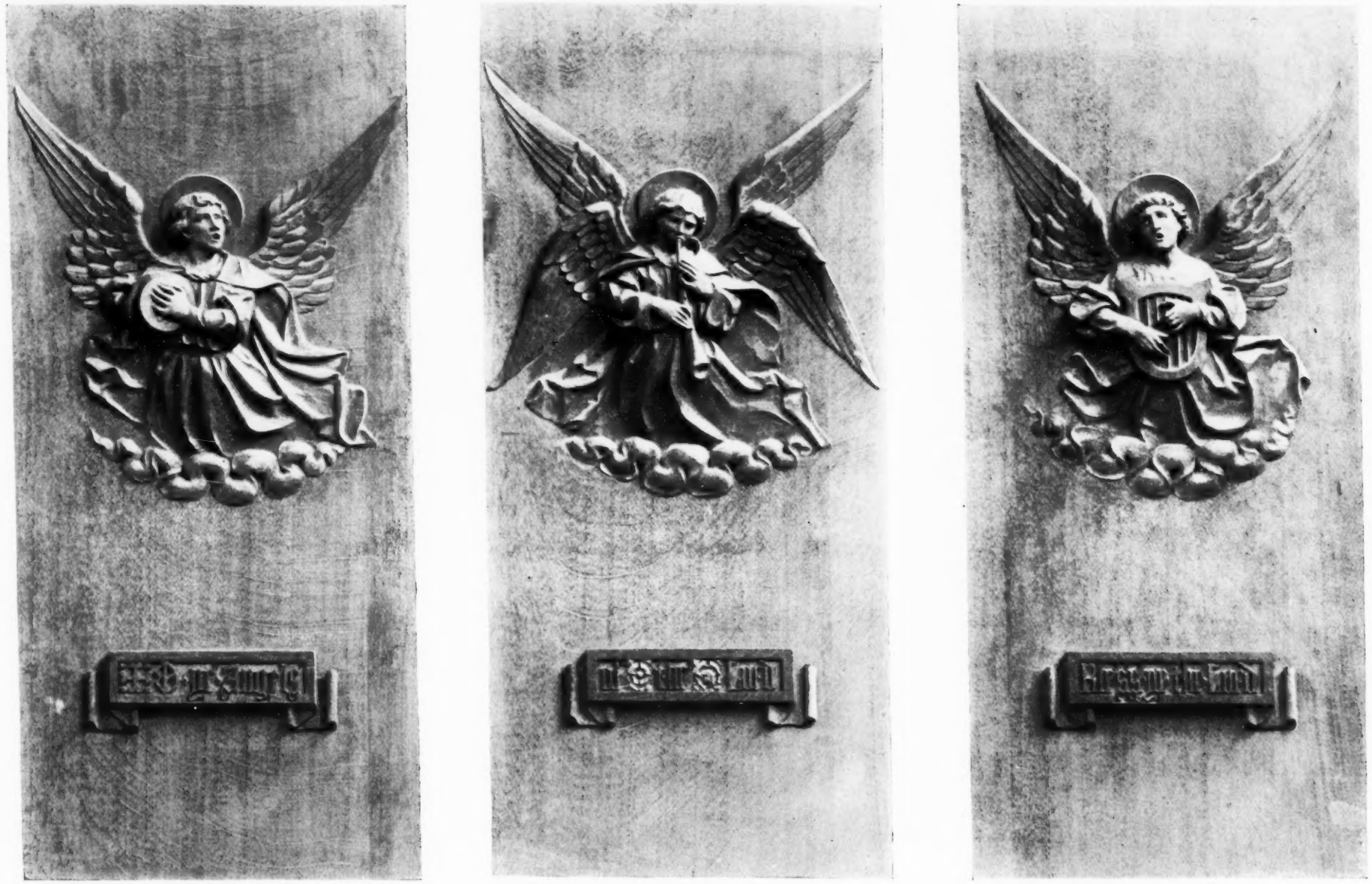
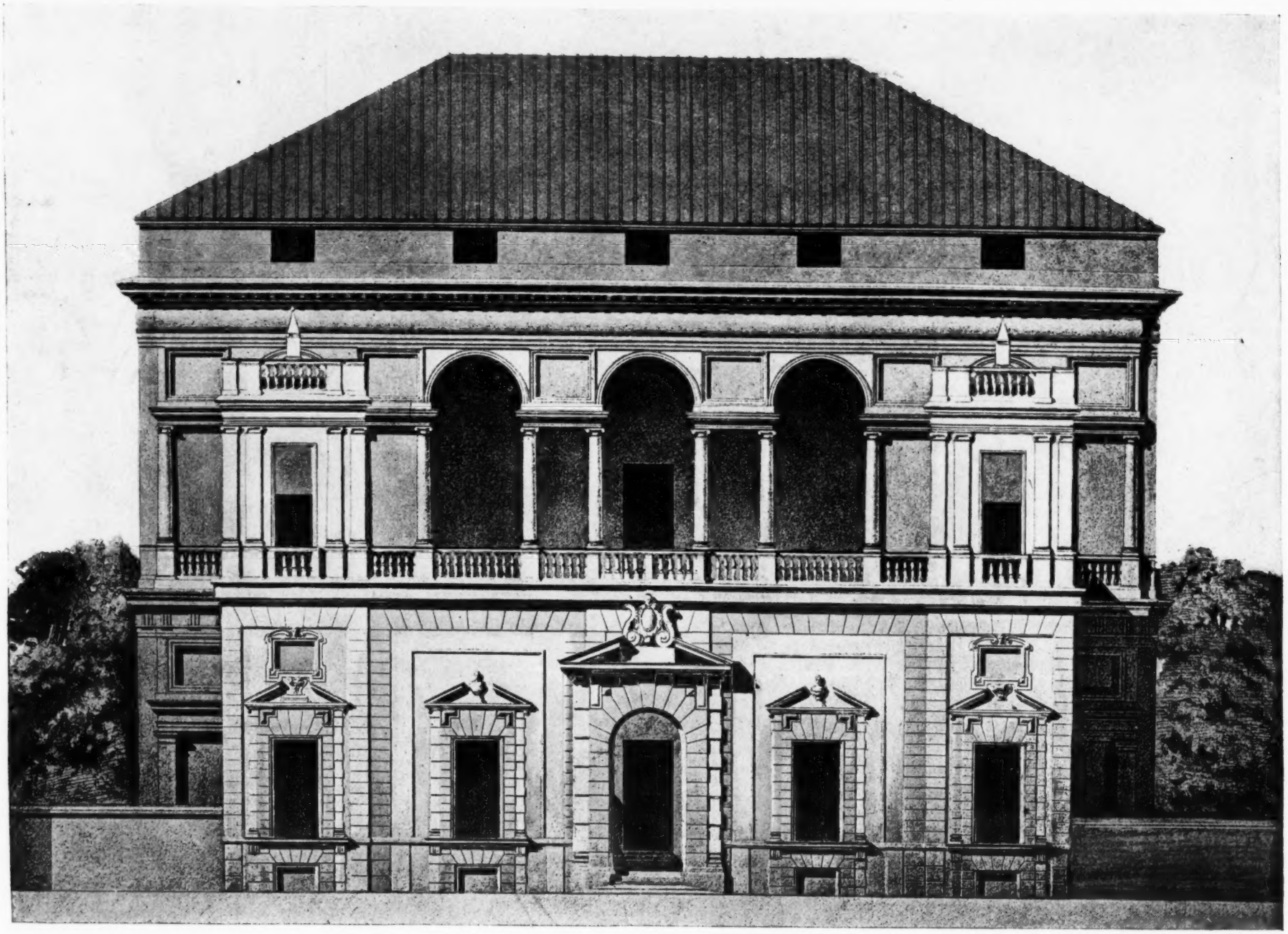


THE CHURCH OF THE HOLY SPIRIT, CLAPHAM: CARVED OAK PANELS FROM THE NEW CHOIR SCREEN.

MR. H. P. BURKE DOWNING, F.R.I.B.A., ARCHITECT.

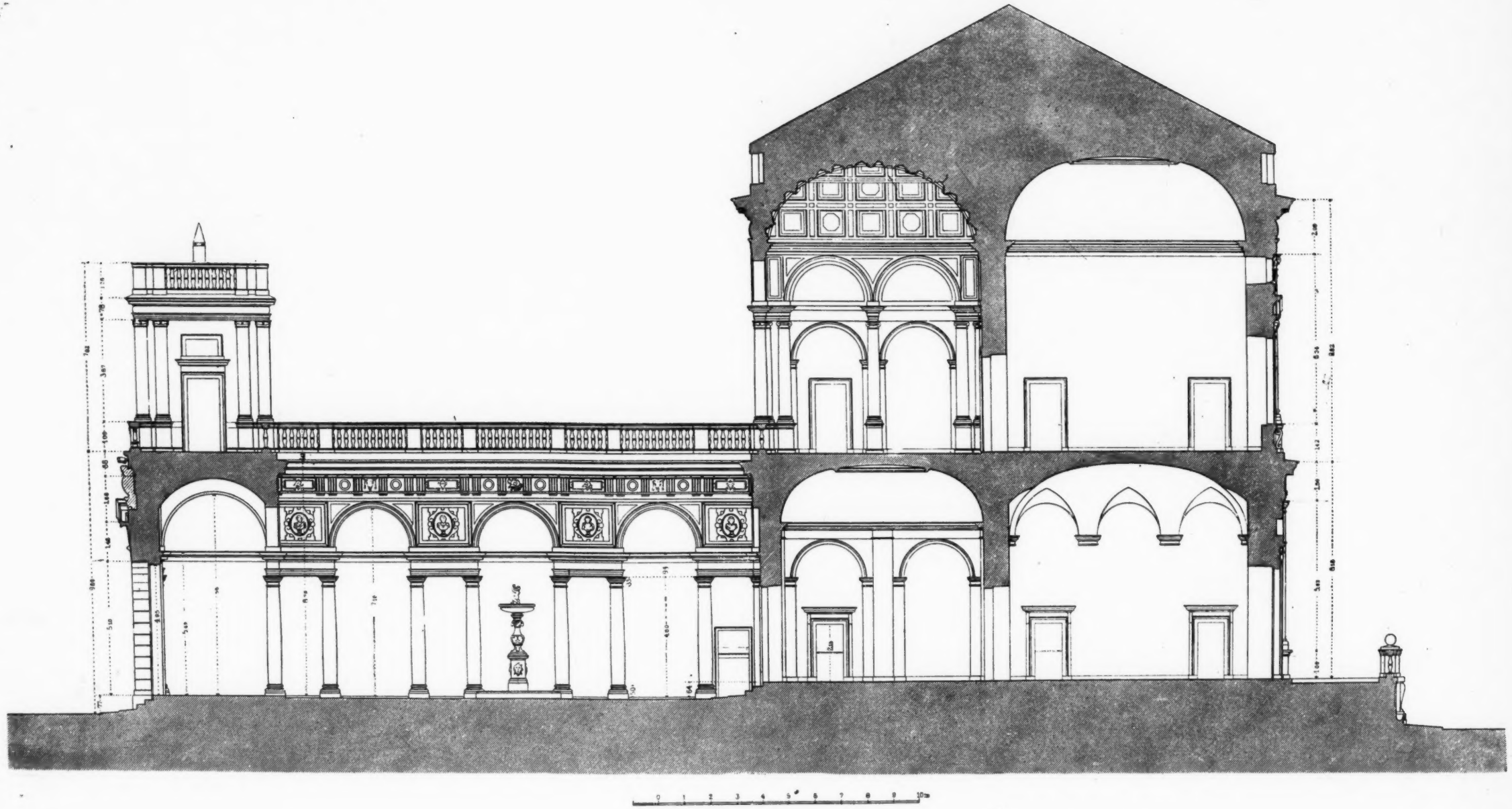
Mr. H. P. Burke Downing, F.R.I.B.A., Architect.

PARR'S BANK, THREADNEEDLE-STREET, FORMERLY THE HALL OF COMMERCE.



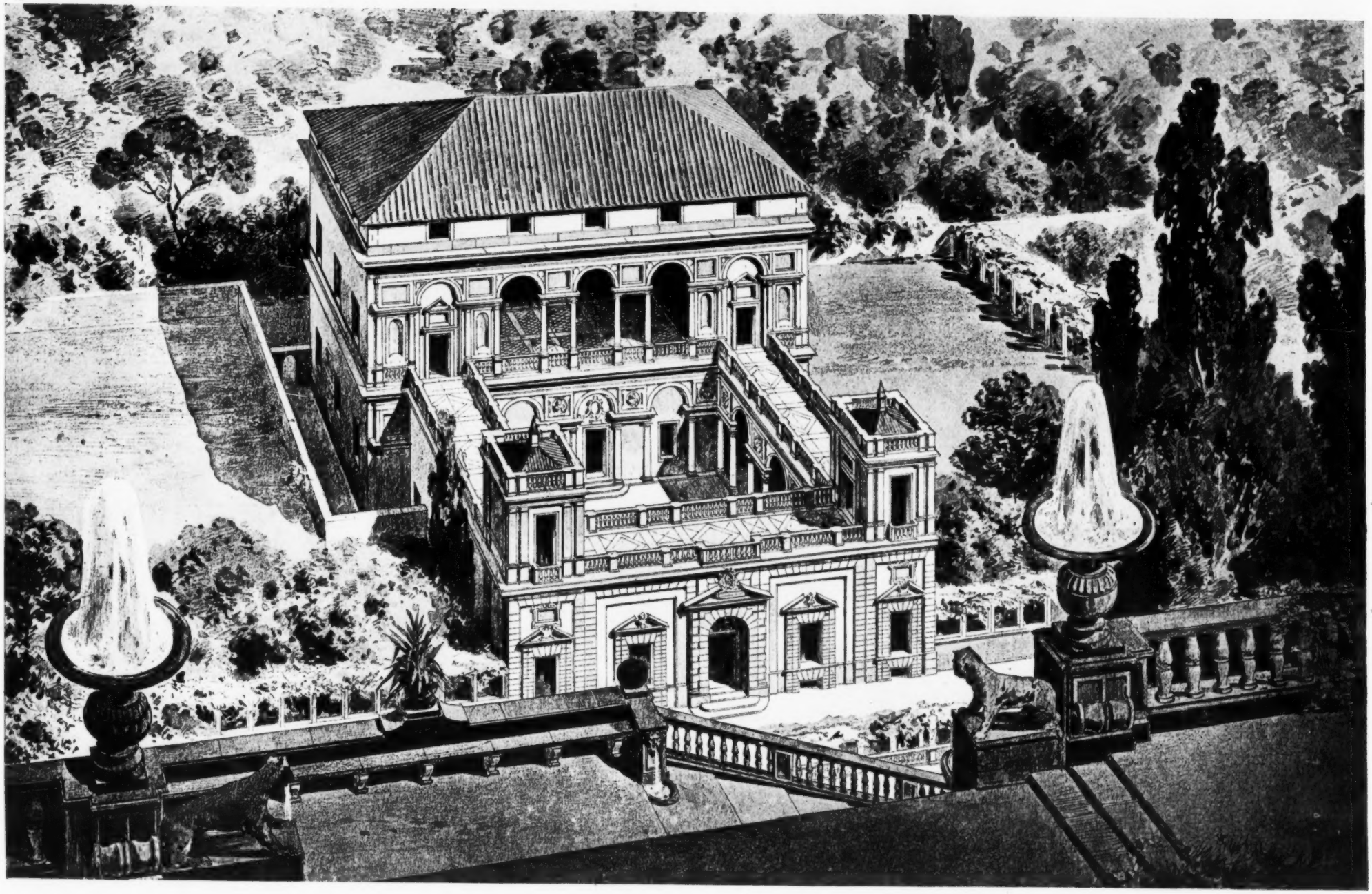
GENOESE PALACES: PALAZZO SAULI. ELEVATION.

GENOESE PALACES: PALAZZO SAULI. ELEVATION.



GENOESE PALACES: PALAZZO SAULI. GENERAL SECTION.

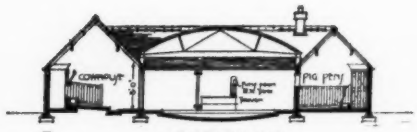
GENOESE PALACES: PALAZZO CAREGA. STAIRCASE.



GENOESE PALACES: PALAZZO SAULI, GENERAL VIEW.

GENOESE PALACES: PALAZZO SAULI. GENERAL VIEW.

BUILDING FOR A POTATO FARM OF FROM 50 TO 80 ACRES



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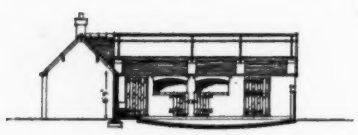

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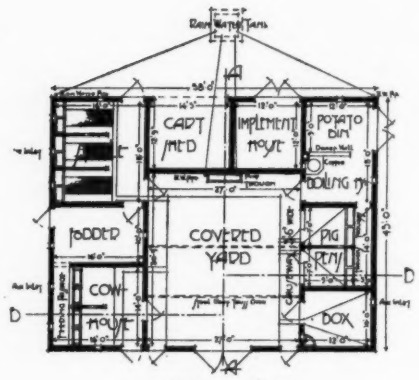
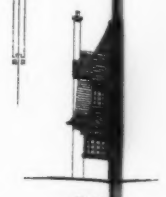


GROUND PLAN

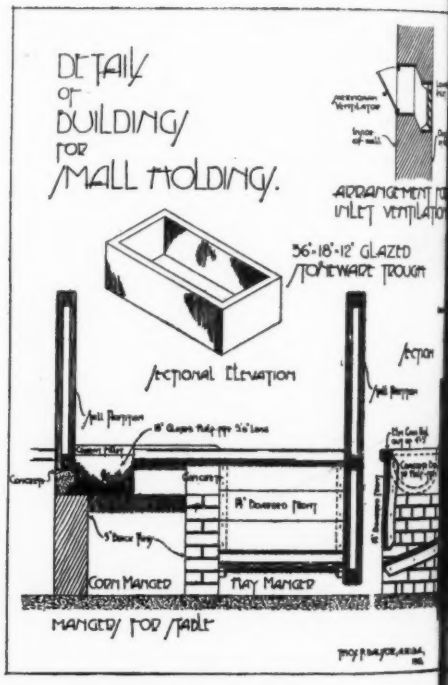
WEST GABLE

SECTION

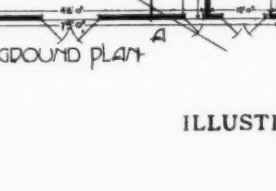


SOUTH

DETAILS OF BUILDINGS FOR SMALL HOLDINGS.

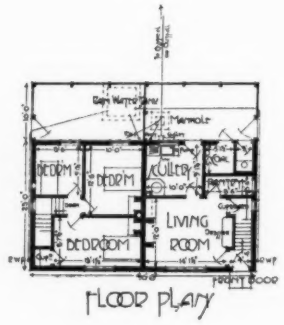


A PAIR OF RURAL COTTAGES



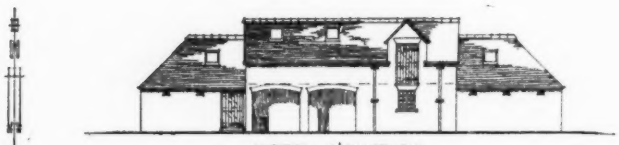
CROSS SECTION

SOUTH ELEVATION

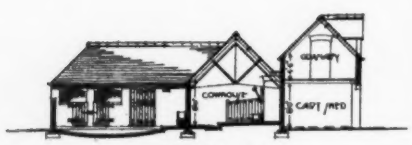


FLOOR PLANS

BUILDING FOR A DAIRY FARM OF ABOUT 80 ACRES



NORTH ELEVATION



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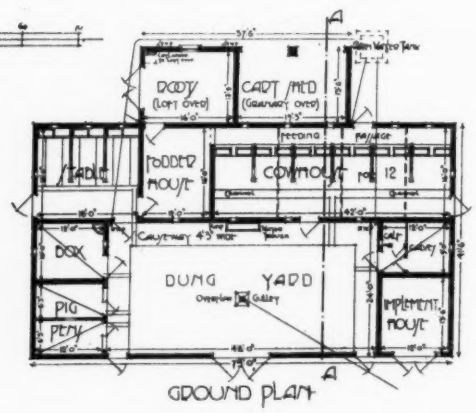
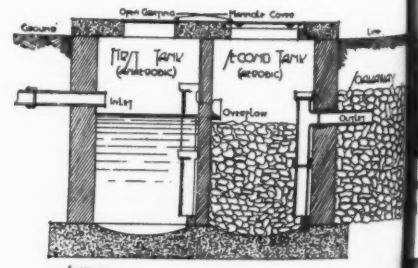


GROUND PLAN

DETAILS OF BUILDINGS FOR SMALL HOLDINGS.



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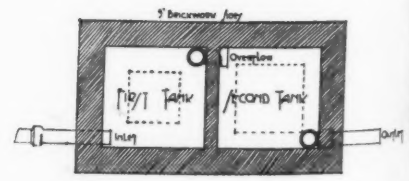
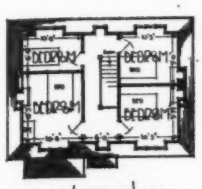


PLAN

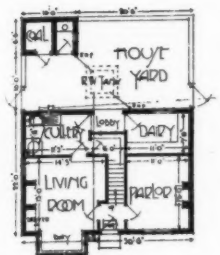
SEPTIC TANK

DWELLIN
FOR A
30 ACRE



1ST FLOOR PLAN

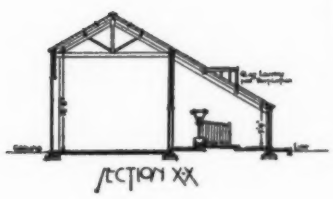
SOUTH



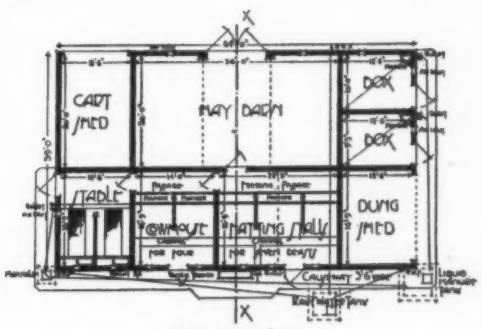
GROUND PLAN

BUILDING
FOR A
GRASS HOLDING
OF FROM
30 TO 80 ACRES

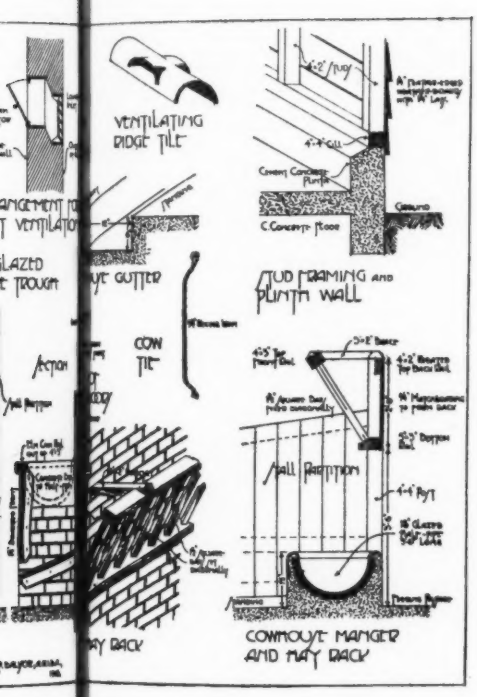
NORTH ELEVATION



SECTION XX



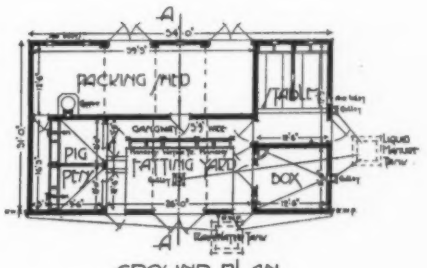
GROUND PLAN



BUILDING
FOR A
MARKET GARDEN
OF ABOUT
30 ACRES

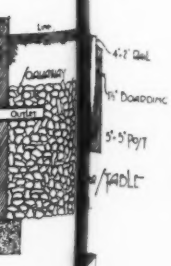
SOUTH ELEVATION

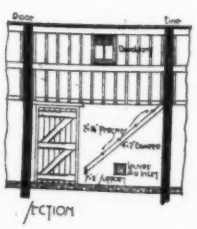
SECTION AA



GROUND PLAN

FOR MIXED





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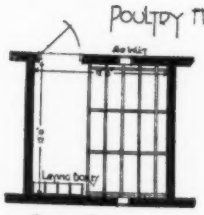
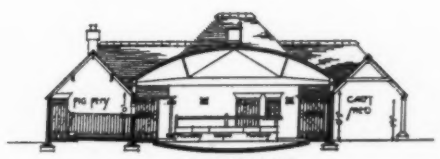


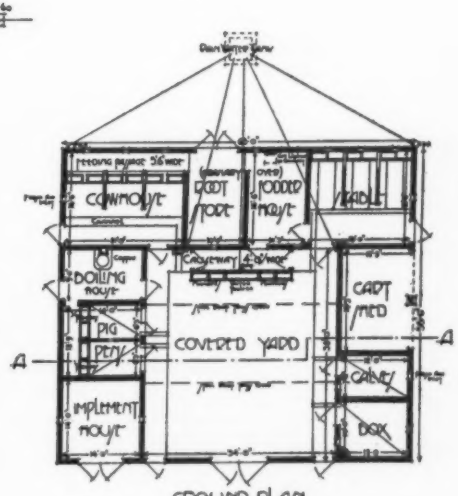
GROUND PLAN

BUILDING FOR A MIXED HOLDING OF FROM 30 TO 80 ACRES



SECTION AA

NORTH ELEVATION



GROUND PLAN

DWELLI SMALL HOLDINGS."—BY MR. T. P. BAUSOR, A.R.I.B.A.